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ABSTRACT

This study illustrates with specific designs how the city might meet two critical educational objectives in its first program of new school construction in many years. The study designs show how New York might build schools small enough to meet criteria for effective learning environments and how these small schools might be closely integrated with their communities. Following an introduction by Rosalie Genevro, two essays discuss the aims and implementation of this study: "Advocacy and Architecture" by Jeanne Silver Frankl and "The New Small Schools for New York Design Study" by Rosalie Genevro. The six neighborhood architectural and educational programs developed through the study are then profiled and amply illustrated. A final essay, "Building and Learning," by Anne E. Riselbach, expands the analysis of the development of school design in New York City. Drawings and texts are the result of exploration by 50 teams of architects, credited with their drawings. Contains 138 references. (SLD)

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New Schools for New York

New Schools for New York

Plans and Precedents for Small Schools

The Architectural League of New York
The Public Education Association
Princeton Architectural Press

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PREFACE

The drawings and texts in this catalogue are the result of an unusual exploration by some fifty teams of architects of the forms New York City school buildings might take if they were allowed to be substantially smaller. The exploration made possible evaluation of the issue of size from points of view that could not otherwise have been considered. The designs showed what smaller schools might look like, as well as what different meanings they might embody to be truly helpful to children, teachers, and neighbors. The designs suggested different spaces that could be provided and how they might be used so that all participants in schooling could work better in them. Equally importantly, the designs showed new ways these schools might fit with the existing fabric of the city. As juror Henry Cobb perceived, they made clear not only how much simpler and easier each one would be to develop and build, but also how much less "traumatic" an intervention each would constitute in its neighborhood.

In preparing these drawings for the New Schools for New York project, the League architects explored a subject matter of intense importance to New York City. What is done with the new school construction program will have enormous impact on our social and political future. The exploration of the choices the program might engage is crucial to such an enormous public undertaking. The choice of form will be important not just to our social interests, but also to our future physical definition as a city, as anyone traveling our landscape and becoming aware of the pervasive, powerful presence of our existing school buildings knows. When we achieve a new "vision" for New York, the form of our schools will be a critical part of it.

In making the exploration, these architects revived a much neglected role for design, that is, as a tool of investigation. Each scheme, each iteration revealed new possibilities, new issues to address, new problems to resolve. The schemes also deepened the understanding that must inform actual design of our public works. In organizing New Schools for New York with the Public Education Association, the Architectural League was very pleased to be able to contribute to that understanding.

Paul Spencer Byard
President, Architectural League of New York

PREFACE

PEA's original idea for New Schools for New York aimed to excite the enthusiasm and endorsement of skeptical educators and policy makers for the importance—and feasibility—of small schools for city kids.

Traditional mindsets resist the notion that cities should provide public school children the small neighborhood schools that nurture their peers in non-urban and private institutions. But big-city students particularly confront a torrent of harsh realities: they need schools which provide relief from anonymity, not another challenge to overcome the loneliness of the crowd.

The most direct way we can recover our cities' lost sense of community is through small schools that bring support and learning to children and their families. New Schools for New York was conceived in the belief that even the most earnest discussions on school restructuring remain shallow if we fail to assure a workable scale within which students and teachers can function.

The quality of participation by architects and designers exceeded our highest expectations. Their practical, beautiful designs concretize educational ideas with a level of insight that can't be argued away by cost cutters.

As we had hoped, the effect has been to inspire and inform changes of perspective and emerging policy. A trend seemed to start with the wholehearted jury participation of Chancellor Fernandez's representative Amy Linden, chief executive for school facilities for the Board of Education, and the warm reception for the small school designs in the popular and professional press. Now the Board is moving to create more than two dozen new small schools and integrating some of them, as New Schools for New York proposed, with other community facilities.

Events are catching up with the vision of the New Schools for New York collaborators that, someday, ordinary city teachers—not just brilliant rogue educators who could teach in a parking garage—will have a means and mandate to know every child they are trying to teach.

Irving S. Hamer, Jr.
Chair, Public Education Association

ACKNOWLEDGMENTS

New Schools for New York was the collaborative effort of two organizations with very different missions but with the shared goal of contributing to the quality of public life in New York City. For well over 100 years the Architectural League of New York has helped architects, artists, and the public enrich their understanding of the purposes and importance of the art of architecture. Since 1894, the Public Education Association (PEA), a citizens policy analysis and advocacy group, has worked to assure poor, immigrant, and minority children access to quality education in New York City public schools. The two organizations were brought together at the instigation of former PEA board member Thomas Jacobs in 1989 to capture the opportunity for a new approach to school building, represented by the creation in New York of the School Construction Authority.

The New Schools for New York project was directed by PEA president Mary Ellen Fahs and executive director Jeanne Frankl and Architectural League president Paul Byard and executive director Rosalie Genevro. Project coordinator Alex Cohen did a remarkable job of generating information, establishing contacts, and keeping the whole enterprise in motion. Architectural League committee members Kneale Culbreath, Craig Konyk, Frank Lupo, Shauna Mosseri, Roy Strickland, Peter Samton, and Susana Torre and PEA committee members Judith Baum, Sheila Haber, Thomas Jacobs, Joan Griffin McCabe (now a city councilmember), and Marjorie Wilkes contributed an enormous amount of time to defining the goals of the project and creating the specific educational and architectural programs.

Early on, New York City public school principals Deborah Meier and Cesar Previdi and superintendent Argie Johnson met with the organizing committees to discuss in general terms what desirable small schools would look like and what kind of experience they would offer their students and teachers. When the design proposals were in hand, in early 1990, jury members Henry Cobb, Anna Hopkins, Amy Linden, Deborah Meier, Leslie Robertson, and Susana Torre spent two days thoroughly evaluating the proposals and engaging in an illuminating discussion of the significance of school buildings and the particular features that make some schools desirable and appealing.

In the Bronx, the project took shape with the help of John Wade, at the time director of education, now policy director for Borough President Fernando Ferrer, and Bernd Zimmerman, director of planning in the Borough President's office, who each provided indispensable assistance to the project. We thank Mark Weiss, principal of Bronx Regional High School; Moira Germaine; Carmen Russo, formerly superintendent of Bronx high schools and now city superintendent of high schools; and Wilfredo Abreu of Community School District 12, all of whom gave generously of their time to discuss the program for the Bronx site.

Principal Jerry Cioffi opened the doors to Prospect Heights High School and provided several extensive tours of one of the more dilapidated school plants serving the city's children. PHHS faculty members and academy heads Francesco Bonavita, Barbara Dixon, Jerry Gissinger, and Peggy Griffiths graciously spent an afternoon discussing their pedagogical goals and what kind of school environment they would like to have.

Our work in Sunset Park was greatly assisted by District 15 Superintendent William Casey and the information and contacts he and his staff provided. We also thank Deputy Superintendent Jesse Pincus; Marc Gross; Blanca Ortiz, principal of P.S. 1; Assemblyman Jim Brennan; Renee Giordano, president of the Friends of the Sunset Park Library; and the many community residents who attended community meetings to discuss the program for the project.

The program for P.S. 90 in Harlem was conceived by the planning staff of the Harlem Urban Development Corporation as part of their larger plan for the Bradhurst area. The League and PEA

are enormously indebted to Lionel McIntyre, director of planning for the Harlem Urban Development Corporation, and to HUDC staff members Regine LaRoche and Nilda Mendez for their help.

In Washington Heights, Community School Board 6 chairman Guillermo Linares, now a city councilmember, was an enthusiastic and insightful supporter of New Schools for New York as a way of investigating new strategies for building schools in this extremely overcrowded district. We also thank Deputy Superintendent Martin Miller and members of the community school board for their interest in the project. The late Ann Loftus, as district manager for Community District 12, was an invaluable source of information about the community. Lenore Peay and Annice Alt were extremely generous on several occasions in sharing their knowledge of child care needs in Washington Heights, as were Nilma Baez, Rosa Jolanda Pineda, and Beth Rosenthal.

Community School Board 25 Chairperson Arlene Fleishman in Flushing made it possible for the New Schools organizing committee to discuss the project and elicit community response at an annual parents night at the board. We are also grateful to Dominick Ciampa, owner of the project site, and architect Mario LaGuardia of Brennan Beer Gorman for their interest and assistance. Pauline Chu, Bernard Haber, Marilyn Bitterman, Reggie Colletta, Tommy Huang, and Vincent Riso also helped in a number of ways.

In preparation of PEA's supporting documents, Diane Dolinsky researched potential sources of cost savings in small school construction with intrepid determination and energy, and Alice Smith lent the disparate materials a consistent editorial voice.

Architectural League program director Anne Rieselbach researched and organized the exhibition "Building and Learning: A Photographic Survey of the History of School Design in New York City," which provided a historical context for the design study. The League is extremely grateful to David Ment, head of special collections, the Milbank Memorial Library, Teachers College, Columbia University, for his extensive help in creating the public schools section of the "Building and Learning" exhibition. We also thank Jay Ames at the Division of School Buildings, New York City Board of Education; Ken Karpel, now at the School Construction Authority; and staff members of the New York City Landmarks Preservation Commission and New York City Art Commission for their help. Rosalie Byard, Andrew Dolkart, Christopher Gray, and Thomas Mellins were generous with source material and advice. In addition we would like to thank the independent schools for the access they provided to archival collections. Those who opened files, gave detailed tours, and explained the history and goals of each school were Jill Axthelm and John Schiff, The Acorn School; Joan Cenedella, The Bank Street School for Children; Sharon Stearns and Lewise Lucaire, The Brearley School; Ned O'Gorman, Elsie Newburg, and Jeff Fine, The Children's Storefront; Frank Carnabuci, The Dalton School; Judith Rich, The Fieldston School; Annie LaRock, The Little Red School House; and Lee Scott and Dorothy Hutchinson, The Packer Collegiate Institute.

New Schools for New York was funded, in part, by the New York State Council for the Arts and the Design Arts Program of the National Endowment for the Arts. Generous additional support was provided by the Aaron Diamond Foundation, the Charles Revson Foundation, the Andy Warhol Foundation for the Visual Arts, the Rockefeller Foundation, and the Lucius N. Littauer Foundation. The Exxon Educational Foundation funded the Public Education Association's "Small Schools and Savings" project.

Last, but most importantly, the PEA and the Architectural League thank the more than 160 architects and designers who volunteered their time and talents to produce the designs that are the core of the New Schools for New York study.

INTRODUCTION

Rosalie Genevro

The Architectural League and the Public Education Association organized the New Schools for New York design study to illustrate with specific designs how New York City might meet two critical educational objectives in its first program of new school construction in many years. The study designs show how New York might build schools small enough to meet contemporary criteria for an effective learning environment and how those small schools might be closely integrated with their communities.

The very large size of New York City schools is widely recognized as one of their greatest problems. The unrelenting pressure to educate large numbers of students has over the years fostered adherence to a largely unexamined, misappropriated argument about "economies of scale"—that it is more economical to build large schools, even if as a consequence of that size they do not work; and this stance has long prevented serious examination of the possibility that New York City might build anything else. While the idea that school buildings can be shared productively with other agencies and groups providing social, educational, cultural, and health services (thus bringing family services into the school and extending its reach as well as the length of its day) has been discussed since the early twentieth century, it has not been widely developed in New York City because of difficulties in coordinating efforts and allocating expenses for separate agencies providing the services.

New Schools for New York and its 160 participants set out to see if they couldn't influence this situation by providing actual designs for buildings proposing alternative approaches. Our premise was that it would be possible to build many small schools in New York if ingenious and innovative approaches toward using the existing built fabric of the city were adopted, along with a willingness to make judgments based on an evaluation of the overall quality of a facility rather than its adherence to myriad individual standards. In fact, one thread of the history of school building in New York offers ample precedent of how to take creative advantage of small sites, existing buildings, and general development activity: private schools, day-care centers, and alternative public schools have often, by necessity, adapted "found" spaces as homes, especially during the early years of such institutions. While "makeshift" is not a condition to be emulated, "ad-hoc" and "flexible" as strategies are. Even the most crowded communities usually have a number of vacant sites, traditionally thought to be too small for schools, as well as other types of unused or underused buildings into which schools could be integrated.

Accordingly, the League and Public Education Association (PEA) developed six architectural and educational programs for New Schools for New York that would test the feasibility of a creative "urban opportunism," using means such as insertion, renovation, and combination with other facilities as building and development strategies. An abandoned H-plan school in the Bradhurst section of Harlem was to be renovated into a small high school and facilities for senior citizens, adult education, day-care, and a library. In Flushing, a middle school for 200 sixth, seventh, and eighth graders was to be inserted into a mid-rise commercial building to be constructed on Northern Boulevard. The existing Prospect Heights High School, in Brooklyn, was to be divided into four semi-autonomous "academies." In Washington Heights, an 80- by 100-foot vacant corner parcel—miniscule by typical school building standards—was to serve as the site for an early childhood center for 200 pre-kindergarten through second grade students and up to 60 day-care children. An elementary school for 350 children and a branch library were to be combined on a site on Fourth Avenue in Sunset Park, Brooklyn. On a larger vacant site in the Morrisania area of the Bronx, an educational complex for elementary, middle, and high school students, along with day-

care facilities, social service offices, and community spaces was to be created as a new community focal point.

In the fall of 1989, with these programs and strategies to be tested in hand, the League and the PEA issued a "call for entries" in the design study, asking architects to help in the investigation by designing actual school buildings that responded to the programs. Fifty-two proposals were produced by some 160 architects and designers, working individually or in teams. All of the projects submitted, and the detailed program for each site, are documented in the sites section of this catalogue.

The essays that follow discuss the premises that guided the design study and the results achieved. In "Architecture and Advocacy," Jeanne Frankl reviews work of the Public Education Association and other groups and individuals that argues for the significant contribution small schools make to student success. Frankl also summarizes the findings of a PEA study of the cost ramifications of building small schools. The PEA study suggests that the presumed economic advantages of large schools over small may be far less substantive than commonly thought. Such factors as shorter construction time, competition among a larger field of contractors, a larger choice of sites, and the possibility of extensive use of renovation rather than new construction may in fact make the construction of small schools cost competitive.

In "The New Schools for New York Design Study," I discuss the designs produced for each site, analyzing a range of issues: how to plan and orient classrooms, how to juxtapose different uses in the building, how to make rooms flexible enough to serve more than one use, and how to "announce" the school to the street. The project review grows out of the comments and insights of the jury members who analyzed the design schemes: architect Henry Cobb of Pei Cobb Freed and Partners; Anna Hopkins, director of the Grand Street Settlement on the Lower East Side; Amy Linden, chief executive for school facilities of the New York City Board of Education; Deborah Meier, founder and principal of the Central Park East schools in Manhattan; and architect Susana Torre of Susana Torre and Associates. Leslie Robertson, a structural engineer, and architect and League president Paul Byard also contributed substantially to the evaluation of the proposals.

The last section of the catalogue suggests the larger context—chronological and philosophical—in which the New Schools for New York project is situated. Anne Rieselbach's essay "Building and Learning" expands the historical analysis of the development of school design in New York City, first presented in exhibition format during the design phase of the New Schools project. The historical material makes clear that public and private school design has at times benefitted from great architectural ambition and the intelligent translation of new educational theories into bricks and mortar. There have, though, been periods of intense public frustration with insufficient school space, cost of school construction, and the poor condition in which schools were maintained. The bibliography of historical and contemporary sources provides a guide to studies and writings on the impact of school size on learning, recent architectural analyses of school design, and contemporary and historical evaluations of the school building program of the New York City Board of Education.

ADVOCACY AND ARCHITECTURE

ADVOCACY AND ARCHITECTURE

Jeanne Silver Frankl

In providing arresting and provocative visual substance to concepts of what small, community-centered schools can be, the architectural investigations of New Schools for New York lend support to a burgeoning social reform movement.

Observations, studies, and interviews with educators by the Public Education Association concur with other research: Students learn better in small schools because they feel more accountable, more significant, and more inclined to participate in class and extracurricular activities. A 1989 study[1] of 343 urban elementary and middle schools in Chicago for example found that, after income level, smaller school size was the most important factor in student achievement. Not surprising. Where participation thrives, where every student can make a difference, students take more pride in themselves and their achievements. Teachers, too, share in the motivating benefits of small schools: A 1991 survey[2] of some 13,000 urban elementary school teachers found school size to be the single most important factor related to how teachers embrace school reform—more important than achievement levels, racial composition of a school, the student mobility rate, and the concentration of low-income students. And, finally, for the growing number of students whose academic energies depend on access to social and personal supports, small schools make a community-centered approach more possible.

The Public Education Association (PEA), a citizens' policy-analysis and advocacy group, has worked since 1894 to make New York City's public schools work for all children—poor, immigrant, and minority children specifically, helping assure them access to an education as good as that of their middle-class peers. These students have always needed advocates. PEA's position, driven by a durable vision of democracy in America, has remained consistent and influential, propelling reforms in the organization and program of schools as well as maintaining ever greater fidelity to the proposition that every child can learn. But society now insists with increasing ferocity that if demands of technology, social order, and world competition are to be met, its children must be educated better than ever before. PEA sees the small-schools concepts, brought so close to life in the designs of New Schools for New York, as the centerpiece of a campaign for educational redemption of our public schools and our city.

Three factors bearing influence on the future of New York City education make it timely to promote this position as the 1990s begin:

A broad recognition of the acute crisis in urban education and the social implications of failing to educate and empower those with the fewest resources.

An increased understanding of the interrelationship between schools and communities, supporting a now fully emerged professional consensus on the need for small schools.

The creation of the New York City School Construction Authority (SCA) and a $4.3 billion five-year capital plan for school construction and renovation, marking the first (and in all likelihood last) major investment in schools-as-buildings in many years.

In 1987, the city's own Commission on the Year 2000, chaired by then-President of the Board of Education Robert S. Wagner, Jr., issued a strong recommendation that "as the city's ten-year capital plan for school construction is developed, smaller school size should be emphasized."[3] Nevertheless, recent Board of Education requests for funds to support the SCA building program project schools that are far too large: Out of a total of 50 proposed elementary schools, 31 are planned for 1,200 seats, double or triple the size researchers and advocates know is appropriate; 12 of the 16 planned high schools are designated as 2,000-seat buildings, and of 8 intermediate schools, none is for fewer than 1,200 students and most are for 1,800 or more.[4]

Present circumstances, while fraught with crisis, offer profound opportunities that oblige

private citizens to take a special role in shaping public policy on schools. Guided by tradition, conservatism, and (in times of fiscal crisis), a well-rationalized penury, educational and civic policy makers are resistant to change. The bureaucracy prefers variations on standard solutions, presuming them to be safer and less costly. Responsibility for a move to smaller school size and adequate community services cannot be left to public officials alone.

Nor can parents of public school children be counted on to reshape civic priorities. Despite new support for "parent involvement" in setting school policy, current public school constituencies have little clout—particularly those of the inner city, where stakes are highest and parents are least affluent and powerful.

The New Schools for New York project was undertaken as part of PEA's effort to rally citizen support for a building policy consonant with educational good sense and societal needs. New Schools for New York, as an act of advocacy, desires above all to lessen the risk of immuring ourselves and our children in a wrong solution. If we too cautiously invest the unique and tremendous potential of the SCA in large schools, the mistake will be lived with for generations to come. An enlightened, bold stroke of public commitment to small schools now, however, will help bring about real change in the quality of those same generations' lives.

THE CASE FOR SMALL SCHOOLS

Children need supportive personal relationships with adults and peers to sustain interest in attending school and learning. This has always been true, and today more than ever. An effective school's environment nurtures the spirit, curiosity, and determination of a child. Disadvantaged students, generally in the majority at all grade levels in inner-city schools, suffer most in large schools. Particularly for students whose backgrounds predispose them to absenteeism and dropping out, school must offer a climate that is emotionally stabilizing and that encourages academic interest and persistence. Not only can small schools make effective environments for learning more possible, but also their pupils—because better known, less frustrated, less alienated, more engaged, and more motivated—are more likely to remain in school.

It has become equally clear that, in order to support academic achievement by disadvantaged students, schools must function as parts of integrated community systems of child and parent services, including but not limited to health, parent and adult education, and counseling. In New York City in 1992 it is estimated that over 70 percent of students have special needs attributable to poverty or racial isolation. Many are from new immigrant families with little or no proficiency in English; often they are being raised in troubled neighborhoods by single-parent families, by two working parents, or under other self-compoundingly difficult or abusive conditions—all circumstances that generate needs for practical and emotional supports as an antecedent to academic learning. Historically, New York City schools lost many pupils for lack of the health, counseling, and recreation services needed to support their further schooling. Society can no longer afford such loss because it can no longer absorb those who lack a formal education or provide them with sustaining work.

The Carnegie Foundation for the Advancement of Teaching reported in 1988:

> *Most city schools are too big, and anonymity among students is a pervasive problem. . . . Overcoming anonymity—creating a setting in which every student is known personally by an adult—is one of the most compelling obligations urban schools confront.*[5]

A decade ago very little consensus existed on the value of small schools, even though studies from as early as 1964 had supported small-scale learning environments as more likely to be characterized by

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adult and peer support for students. In schools small enough for staff and students to work together as a team, these studies affirmed, it becomes possible to compensate for individual weaknesses, reinforce strengths, and reach out to youngsters whose risk or potential might otherwise go unnoticed. Public concern about oversized student/staff ratios, however, emphasized class size rather than size of a whole school or administrative unit.

Against this trend, PEA began championing smaller schools when its studies of small alternative high schools in the early 1980s showed them to be more effective than regular high schools in preventing "at-risk" students from dropping out. Faculty and students alike credited their schools' small size. Further PEA research showed that a central reason why New York City and State special dropout prevention programs weren't working (at a cost of $40 million a year) lay in the alienating and administratively unwieldy nature of the large schools themselves.

The city responded to this research by slowly increasing the number of alternative schools; today there are three times as many as ten years ago. Nevertheless, the overall policy of the city school system in its 1970s to 1980s fiscal crisis continued to stand against downsizing regular programs; no schools were being built; and when schools had extra seats, official policy was to consolidate and *close* them rather than reduce existing buildings' populations.

In the past half-dozen years a strong body of research has grown to support an emerging consensus that smaller size is an essential condition of an effective school. New York City's current Schools Chancellor, Joseph A. Fernandez, agrees that schools must be smaller. The call by the Commission on the Year 2000 and the Board of Education for high schools of no more than 2,000 students marks a significant change from the 1960s and 1970s, when new high schools were planned for 4,000 students. It reflects their immediate and most important challenge: to enable students to complete high school. In cities across the country and among the nation's most exciting educational leaders—exemplified by Deborah Meier, the acclaimed founder and principal of the Central Park East Schools and a juror of New Schools for New York, and Ted Sizer, the distinguished former dean of the Harvard School of Education, founder of the Coalition of Essential Schools, and author of a leading study of American high schools—the conviction that schools must be smaller is flourishing.

Most New York City high schools have 2,000 to 5,000 students. They are incapable of providing a sense of community and caring relationships and have become dysfunctional for today's high school students. PEA's concern by no means limits itself to the high schools and dropout prevention—the New Schools for New York project programs are self-evidently targeted to all grade levels—but high school holds the final chances for many current students who have thus far been failed by their educational experience. The Board of Education acknowledges this to the extent that house plans, or the subdivision into units of "schools within schools," have been mandated for all high schools with coordinated dropout prevention programs. But policy has shunned the reality that the diverse curriculum of comprehensive high schools no longer responds to the majority of students' needs; most contemporary teenagers are neither able nor willing to take advantage of the range of opportunities that once earned the city's high schools great renown.

At all grade levels, small schools directly benefit teachers and teaching, the heart of all true educational reform. In a smaller setting, possibilities for interdisciplinary and team teaching expand. Teachers can work together to decipher and respond to each student's talents and learning style. While a large variety of electives may not be available, variations on curriculum that may be more compelling for the student than a pre-packaged elective can be offered, and greater opportunities exist for students to help shape what they study. Issues of teacher empowerment and school-based management, flagships of current urban administrative reform efforts, are also addressed, since small schools constitute "the most important institutional boon to teacher autonomy. . . . A small school makes shared decision making and colle-

giality a natural event, not a time-consuming luxury."[6]

It also bears noting that in large schools many students are known to avoid teams and activities because they feel anonymous, self-conscious, unwelcome, and perhaps less successful among groups of unfamiliar others. In a small school, all students can get a chance to participate in extracurricular and team efforts simply because each individual is known and needed.

Furthermore, research shows that student violence occurs more frequently in large schools, and that many of the recent violent incidents in New York City schools have been caused by intruders. Stresses engendered by a potentially violent atmosphere in schools have been shown to have a highly negative effect on students' ability to learn and achieve. The ability to recognize a stranger, possible in smaller settings, is an effective security measure, but as the national report of a 1974 Presidential Panel determined, in a school "larger than about 500 students, teachers no longer know the names of students they do not teach, and the principal no longer knows students by name. At about 1,000 students, the principal becomes unable to distinguish whether a particular young person belongs to a school."[7]

Schools cannot perform their duties well without the support of families. Even parents with time and interest and who are not new to the culture are intimidated by the formidable size and imposing institutional quality of a typical urban school. Small schools inherently support the evolution of parental trust and involvement, as parents, teachers, and students become familiar with each other over time in an unthreatening context.

Finally, smaller schools make the realization of community-centered educational goals more practicable and effective. The vision of "operating inner-city schools as a comprehensive human service center which can coordinate existing community resources as well as promote the development and implementation of new programs"[8] is far more pragmatic than utopian. Although school systems cannot be responsible for meeting every need of their students—or of those students' parents—basic needs cannot be disengaged from the learning process. Students' physical and mental health are as complexly integrated with their ability to learn as are their individual backgrounds of environment and experience.

While imperfect and not a substitute for a supportive family, schools automatically provide the best existing interface and highest level of contact with the needs of children and their families. The schools' potential expanded role as an interagency coordinator is particularly important in economically distressed urban areas, where human services are either dispersed among a variety of organizations and agencies or unavailable. If community agencies locate their services on the school site, a more comprehensive approach can be taken to meet the economic, physical, educational, and social needs of individuals and of the community. Additionally, the school, as locus of positive activity, can serve as a catalyst for strengthening and revitalizing the entire community.

PEA stands firmly convinced that a policy move to much smaller schools, and the reconception of the school environment such a move would permit, will be repaid many times in educational and social gains. We believe that right now, as the city is in the early years of its first major school-building program in over sixty years, the trend toward large—at times truly gigantic—public schools must be reversed. Enrollment should be capped at decidedly low levels—300–500 for elementary schools, 300–750 for intermediate schools and 750–1200 for high schools—and where appropriate and possible, schools should actively and indeed physically collaborate with community service providers.

WHAT IS TRUE COST EFFECTIVENESS? PEA'S COMPANION STUDY ON SMALL SCHOOLS' BUILDING COSTS

Given the level of support for the concept of small schools, one may well wonder what objections prevail against it. The response from policy makers has continued to be a virtually reflexive argument, most frequently expressed as "The city can't afford it."

As a complementary project to New Schools for New York, PEA undertook in 1990 an eight-

month study of contracting, construction, and site-acquisition costs, called "Small Schools and Savings," to rebut the presumption that building large is by definition more economical. Our aim was to show that small schools can be affordable and afforded. If each occasion to innovate, combine, re-envision and collaborate—all uniquely positive forms of what Architectural League director Rosalie Genevro has termed "urban opportunism"—is welcomed, the long-dominant idea of "economies of scale" might be displaced, if not toppled, and ultimately might be denied its definitive effect. By anchoring their resistance to a bland rationalization that staircases, corridors, auditorium, gymnasium, and cafeteria cannot be reduced proportionately to a reduction in the number of students, policy makers have shown a dearth of imagination and enterprise, and a great failure to move aggressively on an important concept.

In the optimism that accompanied the arrival of the city's new reform-minded Chancellor Fernandez, we began our "Small Schools and Savings" study hoping to prove that building small would actually be cheaper. We have managed, at the very least, to demonstrate how small schools can be built for competitive per capita expense when ingenuity is employed. Whatever light our results are analyzed under, we find the small-schools arguments so powerful that the burden of proof should rightfully rest with the policy makers: It should be their obligation, certainly moral, certainly practical, and perhaps even mandated, to prove that they actually *cannot* build or create small schools as efficiently as they purport to build large ones. Our study underscores their failure to meet this burden of proof.

True cost effectiveness goes far beyond dollars per square foot. The argument against small schools based solely on the cost of the building process ignores both a student's long-term needs and the extreme social costs of human failure that ultimately show up in huge dollar amounts. A dropout can easily cost more than $60,000 per year if he or she ends up in the youth corrections system, for a single example, and all costs of welfare dependency, crime prevention, and rehabilitation programs are steadily, inexorably rising. Focusing on the cost of buildings denies the very well-documented, very real costs of educational failure, to which large schools make an untenably negative contribution.

The nay-sayers, however short-sighted, can nevertheless be met on their own turf. A summary of PEA's "Small Schools and Savings," conceived and conducted expressly for this purpose, follows:

SMALL SCHOOLS AND SAVINGS[9]

It is the purpose of this report to question and challenge the presumption that capital costs of school planning and construction render small schools uncompetitively and prohibitively expensive. The New Schools for New York design study provides some practical guidance on small school design; a separate PEA study in progress ("Small Schools and Operating Costs," to be released in 1992) addresses small schools' operating costs.

The present study offers a significant body of opinion, solicited through interviews and research[10] conducted over an eight-month period in 1990, that, at least where a school is as small as 400 to 500 seats (a size excellently suited to early childhood, elementary, and alternative high school programs), savings can be attained by adopting an "opportunistic" approach to building—that is, taking advantage of opportunities to realize savings as the opportunities present themselves case by case. Small schools can be created cost effectively by using small sites, by opening up bidding competition to smaller contractors through scoping more projects in the $10 to $20 million budget range, by rehabilitating or renovating existing structures, by sharing or creating multi-use facilities, or by collaborating with other public or private construction projects.

Why We Are Not Getting Smaller Schools

As noted above, a preponderance of evidence shows that small schools provide a better environment for learning, and that their pupils are more likely to remain in school. We know that anything that keeps students in school is an excellent long-term investment. It has been estimated by the Carnegie Council on Adolescent Development (1988) that each year of secondary education

reduces the probability of public welfare dependency in adulthood by 35 percent, and that a single year's class of dropouts, over their lifetimes, costs the nation about $260 billion in lost earnings and foregone taxes alone.

The cornerstone of the argument against building small schools bears some scrutiny. "Economies of scale" is an idea rooted in the factory model and mass-production processes. It can be defined for our purposes as the (presumed) relationship between an increase in the scope of a project or operation and a decrease in the incremental cost. It argues that if a facility serving 1,000 can be built for *x* dollars, a facility serving 2,000 would cost less than *2x* dollars—not only because some spaces could be consolidated in a larger building, but also because of a lower cost per square foot due to more efficient use of labor and resources in large construction projects. After construction, a larger entity presumably enjoys parallel economies of scale in administration, operations, and purchasing.

This is conventional wisdom in private business—but we believe that what may be true for a factory is neither true nor appropriate for a public school. An overemphasis on "economies of scale" sidetracks us from our primary goal, since a true judgment of cost effectiveness must first determine: Is a student from this large or small school more likely to graduate? Is this student more likely to go on to join a pool of skilled workers? Is this student likely to end up in jail or a drug rehab program or dependent on welfare? Is this student ultimately going to contribute to society or to be a drain on tax coffers?

Moreover, the assumptions underlying these presumed economies of scale have not been critically or systematically tested in the context of contemporary schools. Instead, a tradition of large schools built in the past tends to keep school planners from considering more creative and potentially cost-competitive solutions. The Public Education Association finds the small-schools arguments so objectively powerful that the final burden of proving whether small schools actually can or cannot be built competitively should appropriately rest with the concept's opposition rather than its supporters. "Small Schools and Savings" makes it abundantly clear to us that their burden of proof has not been met.[11]

How to Create Smaller Schools

As we consulted individuals experienced in construction, urban planning, politics, education, real estate appraisal, and related fields, we uncovered many imponderables. There was strong support for the premise that building smaller is inherently less costly, but the experts differed on whether and to what extent savings in building small schools could be realized from factors such as small contractors' greater flexibility in work scheduling; political considerations (such as the use of union labor); variations (such as the availability of air rights) associated with specific sites; and a range of other unpredictable cost factors, such as the strength or weakness of the building industry at any given time.

Nonetheless, we found a "critical mass" of support for a flexible strategy, one which takes advantage of potential savings associated with the interface between the opportunities a neighborhood affords for cost-effective building and its combination of educational and community needs.

The following outlines some of the potential savings opportunities associated with such a flexible approach:

Using smaller sites

- introduces potential savings in site acquisition currently ruled out by an insistence on larger sites, since smaller sites are often proportionately cheaper, even when privately held, than the city held/privately held combinations required for most large sites
- creates a greater selection of available land, whether owned by the city or privately

Renovation of an existing abandoned or underutilized building

- does not require assembly of a new site
- does not require an Environmental Impact Statement (EIS)
- may allow reuse of existing foundation, facade, walls, and/or bricks, etc.
- employs a different, less expensive labor market

Collaboration with other public agencies to incorporate smaller schools in multi-use facilities

- makes fuller use of costly public investment
- can bring together related community functions and services
- uses economies of scale to advantage without necessitating large schools

Integration with private- or public-sector construction or renovation projects (for example, including a school in a commercial office building, or negotiating with a developer to incorporate a school in the construction or renovation of low-rise housing)

- uses the same site, EIS, and ULURP (Uniform Land Use Review Process)
- uses the same architects and other professional services
- uses contractors and materials already on location
- may find greater efficiency in the private sector

At times these possibilities may be mutually exclusive, but at others they may be combined to advantage: For example, when a small-school project is integrated with private renovation instead of new construction on vacant land, maximum cost effectiveness can be achieved.

The questions to be asked go beyond design issues to functional and programmatic ones. If a school cannot provide a gathering space for dramatic functions during school hours, can its drama club operate after school hours in a classroom space? And is a large auditorium that can bring an entire school together—which certainly makes a contribution to the school's social cohesion—more or less important than the increased participation in all aspects of school life that takes place in a small school? There are no clear-cut answers to these and related questions, but there will never be any until the questions are asked.

Large vs. Small Strategies

This report surveys a variety of cost-cutting methods available under different circumstances in different neighborhoods where small school construction is needed. Our bottom line is very simple: We urge that where appropriate sites are available, small schools be scoped, designed and estimated as thoroughly as large schools have been.

There is undoubtedly a fluctuating threshold at which the fundamental costs of building a school are irreducible by strategies based on small scale, but our survey could not determine its limits. Whatever that actual threshold, if a small-school strategy should prove only slightly more expensive in a particular case, we believe an added expense of five, ten, or even fifteen percent would be justifiable in light of the educational benefits of smaller schools.

The question of strategy takes on special importance because New York City public school construction is now being conducted under radically new auspices. In 1988 the state legislature created the School Construction Authority (SCA), with a mission to build approximately thirty-five schools over the next ten years. The SCA's Five-Year Capital Plan now in effect details cost projections for site acquisition, design, and construction that seem both high and arbitrary. If their strategy toward determining size were inherently flexible and would correlate need, savings opportunities, and services existing in the community to be served, small schools and their attendant advantages could be expected to proliferate.

The Possibilities of Inherent Savings in Small Projects

One of the most crucial inherent *advantages* of a small school is the shorter time it requires to build. It is always faster to build a small school than a larger one, and saving time saves money for society as a whole, regardless of how the costs of borrowing and interest payments are allocated by public-sector budgeting methods. Many builders and other professionals in construction management believe that smaller contractors are more "streamlined" than their larger counterparts; smaller projects benefit from a larger pool of bidders; and greater competition fosters lower costs. The observations about competition were particularly upheld by authorities with direct experience in public construction programs.

All experts consulted agreed that some costs are relatively inflexible: Design fees, legal fees, and

other professional costs are relatively insensitive to the size of a project, as are the costs of demolition of existing structures. Consequently, they are better distributed in the overall costs of large projects. But these costs make up a relatively small proportion of the total. The bulk of school building expenses are the direct costs of construction. Here, many experts agreed, various factors can make it less expensive to build small than large.

On a big job, organization and planning are the major challenges. A small project has a simpler, more flexible work schedule. Delays that would be disastrous on a larger project can more easily be worked around. And given the size of the projects that the SCA has planned, it is reasonable to believe that bidders take into account the likelihood of delays, and build a corresponding cushion into their bids.

Our interviews examined issues of lower overhead, leaner organization, more flexible scheduling, lower risk of delays, increased competition, and availability of work force. Several specific factors were weighed in light of current markets and circumstances. The consensus is that as the private market for construction has dried up, the public market should have more contractors competing for work. But the motivation for smaller schools requires a clear and long-range perspective: The boom-and-bust cycles of the construction industry are shorter than the lifespan of the ideas that shape public policy and planning. So if there are indeed advantages to smaller schools in terms of the competitiveness of the bidding process, they should be pursued despite temporarily prevailing or countervailing factors.

Savings through Smaller Sites

Ideally, sites should be chosen by seeking the best combination of desirable characteristics. The school population should then be determined by working from the dimensions of that best site, rather than the other way around. A site that is well suited to a school, for example, with an allowable footprint and Floor Area Ratio (FAR) that would permit a 400-student school, should not be discounted because one has arbitrarily set a 600-minimum target population.

On general principles, a shrewd shopper for school sites should not automatically rule out smaller parcels, whether or not they are city owned. An analysis of 100 real-estate transactions involving properties comparable to the New Schools for New York site in Washington Heights convinced us that under certain zoning and market conditions, acquiring small sites from private sources at reasonable market rates can be a cost-effective alternative to the more typical process of piecing together a larger site out of city-held and privately-held land. Where a private developer might not put rental housing, because of an unfavorable projected return on investment, a small school might well thrive. The city might thus achieve savings in site acquisition that are currently ruled out by the insistence on larger sites. It is flexibility, making possible a range of choice, that in the end defines a buyer's market.

In addition, a small-site approach would realize ultimate savings by increasing the city's options for larger parcels which could serve city-wide needs, for example, as parks or hospitals, or which could be resold to the private sector. It is reasonable to believe that in at least some cases, a large parcel may be more valuable to the city in a commercial use, which pays property and corporate taxes as well as providing jobs, than if used for a school.

It must also be taken into account that community reaction to the proposal of almost any public facility is often confrontational. Schools are hardly exempt: Community members have legitimate concerns about traffic generation, children and noise, teacher parking, and so forth. In most of these respects, smaller schools have a smaller impact, and are consequently easier to "sell."

Savings through Renovation

Our interviews, which revealed firmly held and often contradictory beliefs, found a strong and rare consensus of opinion on one point: Renovation in New York City is much cheaper than new construction, even on a site requiring extensive reconstruction. The architect of a private school in a cluster of four buildings in Harlem, for example, said that renovations were, in general,

twenty-five percent less expensive than new construction.

As for time, neither extensive site testing nor, in many cases, an Environmental Impact Statement or other reviews are required for renovation projects. Although the SCA is exempt from city environmental reviews for its first five years, the need for schools will outlive this exemption, and we are seeking lasting ways to telescope pre-construction time.

Savings through More Imaginative Organization of School Space

A general rule of thumb attributes one-third of a school's construction cost to building an auditorium, gymnasium, and cafeteria. But some spaces can be used efficiently for different purposes at different times; instead of a dedicated auditorium, a small school could have several adjacent classrooms with flexible partitions that could be used as a gathering space when the need arose. Similar exchanges may be available for labs, vocational training areas, and other specialized facilities. History and common sense have often demonstrated the satisfactory use of a building's roof for gym space or of an adjacent park for a playground.

Renovation without "bricks and mortar" is another possibility to widen the array of options. PEA has been involved since 1988 in advocating and evaluating "house plans" to establish academies or subdivisions within existing schools. Such a plan could involve segmenting hallways and classroom wings with physical or simply symbolic partitions.

Savings through Multiple Use

In a neighborhood where social services are needed, multi-use occupancy incorporating a small school offers both economic and functional advantages. From the economic perspective, evening, weekend, and summer use increases the return on a costly public investment. Of special value are dual-use spaces that can serve different functions simultaneously or (more commonly) at different times. By carving out a small space for a school in a larger building, it may be possible to combine general economies in construction with the educational advantages of a small school. From the urban planner's perspective, a combined school and community facility could well serve as the "engine" for the revitalization of the community. Obviously the agency or agencies responsible for the non-school functions should bear a proportionate part of construction costs.

Savings through Integration with Other Developments

Unless a district has currently underutilized schools, new housing brings a need for new school seats. But in most cases, neither the planning nor building of schools is synchronized with housing construction in New York City. Integrating schools with housing, commercial or public space offers large potential savings. Construction costs are reduced, because many costs in both capital outlays and time are one-time charges, for example, site selection and acquisition, surveying, professional services, and EIS and ULURP review; more savings are possible if the same contractors can be used.

Synchronization of new school construction with housing development eliminates the need for costly expedients such as busing students to other districts, leasing space, or building annexes. (Even these expedients are preferable to the stopgap measures which now occur all too frequently, such as classes held in a gymnasium, or reading groups in a hallway for "overflow" students.)

Specific Opportunities for Savings in Private Development

Innovation is the key to linking school construction to private development. Incentives can be negotiated case by case, ranging from tax breaks and zoning modifications to sale of air rights. In addition, the existence of a new school in itself makes housing more marketable and provides stability to the surrounding neighborhood.

* * *

Smaller schools provide a better education. For too long, that central goal has taken second place to what were considered "practical" considerations of economies of scale. But if those economies are themselves questionable; if there are countervailing economies available in smaller schools of innovative design; and if, as we know to our cost, there is no greater "practical" loss than a school system that does not achieve its educational goals; then parents, communities, and their representatives should demand that smaller schools be given a chance to prove themselves.

Recent research clearly demonstrates that in urban settings, and especially in disadvantaged school districts, limiting the size of schools is the *first step* in improving public education. We believe that this research is too crucial to ignore, and that the educational costs of the large-school status quo are too great. Ways must be explored to build small schools while employing all the tools available to keep costs down.

This can best be accomplished by beginning with community input on the needs of the neighborhood and translating those needs into the spaces and places required to meet them in a small school, tailoring the core design to complement or take advantage of, rather than duplicate, the neighborhood's existing amenities.

The economies of scale that have dominated the Board of Education's thinking and, in turn, that of the School Construction Authority thus far, have not proven in practice; at the very least, the Board of Education should scope, design, and estimate smaller schools as fully as they have evaluated larger designs. Smaller schools would expand the range of potential sites, making selection easier and acquisition less costly.

The flexible strategy we advocate will require improved collaboration within and among city agencies. Adopting an open-minded approach to site selection or a commitment to the redesign of existing facilities takes an internal reconfiguration of established bureaucratic processes; renovation of abandoned or underutilized buildings, the creation of multi-use facilities, and integration of schools with public and private development all involve multiple agencies in collaboration. But such reconfigurations or collaborations, positively pursued, offer new possibilities for savings, more productive and effective use of each agency's efforts, and schools that are capable of serving our children better.

CONCLUSION

What private-school parents intuitively sought for their children has emerged through research as a priority for the public sector: *All* children need small schools that enable them to be known and cared for, and that resonate to their families' needs and experiences. Inner-city children need these supports especially if they are to live up to their promise and society's expectations.

New Schools for New York sparked strong, immediate, and intuitive responses from its participating designers and architects that the Public Education Association found stimulating, heartening, and moving—a validation both of the ideas behind the study and of the premise that small schools can inspire achievement.

Jeanne Silver Frankl is executive director of the Public Education Association

NOTES

1 G.A. Hess, Jr. and L. Corsino, Chicago Panel on Public School Policy and Finance, "Examining the Effects of Intra-District Variation on School Size and Resources," March 1989.

2 "Charting Reform: The Teachers' Turn," October 1991, a survey sponsored by The Consortium on Chicago School Research.

3 "New York Ascendant: The Report of the Commission on the Year 2000," New York, 1987.

4 Per the New York City Board of Education's Department of School Facilities.

5 "An Imperiled Generation—Saving Urban Schools," a report by the Carnegie Foundation for the Advancement of Teaching, New York, 1988.

6 Deborah Meier, *New York Newsday*, editorial, 8 September 1985.

7 James S. Coleman et al., "Youth Transition to Adulthood," The Report of the Panel on Youth of the President's Science Advisory Committee, 1974.

8 Laurie Edelstein, "Urban Community Development: The Bronx," prepared for Yale Law School, 1991; 1992 publication by PEA pending, available in the PEA library.

9 "Small Schools and Savings," funded by Exxon Education Foundation, was researched by Diane Dolinsky under the direction of Jeanne Frankl; edited by Monte Davis and Alice Smith Duncan. © 1992 PEA.

10 Sources of uncredited supporting and dissenting opinion include: Jay Ames, New York City Board of Education, Division of School Facilities; Krystal Brellochs, director, School Health Programs, New York City Department of Health; Henry Brooks, president, Adrian H. Muller and Sons Real Estate Appraisers, New York City; Henry Gifford, general contractor, New York City; Bernard Haber, partner, Hardesty and Hanover Engineering, New York City; Bob Kahn, senior director for project management, New York City School Construction Authority; Steven Manne, program operations officer, New York City Transit Authority; Joseph Neuman, chair, The New York Building Congress, New York City; Beverly Reith, director, Environmental Review Program, and Linda Wolff, Vacant Cluster Program, New York City Department of Housing Preservation and Development; Leslie E. Robertson, Partner, Leslie E. Robertson Associates, New York City; John Sussek III, chief executive officer, Boro Lumber Co., New York; Norbert Turkel, AIA, partner, Turkel Collaborative, New York City; Lance West, director, Charles H. Greenthal Commercial Contractors, New York City; Lillian Zalta, director, New York University Midtown Center. PEA gratefully acknowledges the assistance of these and other individuals and organizations who provided information that aided in the research for "Small Schools and Savings."

11 The same may be said in regard to operational costs. Using research gathered by eleven separate research groups over a two-decade period, Susan Heinbuch demonstrates in PEA's forthcoming "Small Schools and Operating Costs" (funded by the Exxon Education Foundation, © 1992 PEA) that, under a traditional school organization, the cost curve for operation associated with size is U-shaped and that as schools get larger, per unit costs increase, i.e., there is a minimum point (actually very low) up to which schools enjoy economy of scale in operation, but beyond that point schools experience diseconomies, or penalties of scale. Heinbuch's illustrative table and chart show that penalties of scale are found at sizes greater than 600 students for an elementary school, or greater than 1400–1600 students in a high school; she also cites a nationwide study of 730 public high schools that found increased per capita operational costs when student populations exceed the 500-to-999 range.

THE NEW SCHOOLS FOR
NEW YORK DESIGN STUDY

THE NEW SCHOOLS FOR NEW YORK DESIGN STUDY

Rosalie Genevro

Half a century ago the architectural critic Talbot Hamlin stated a simple and important truth about school design: "If education is founded on the development of the individual, the size of classes and the size of buildings should be small enough to allow the individual to count."[1] The New Schools for New York design study was organized to give architects and designers a chance to challenge the widely held belief that small schools are necessarily and prohibitively more expensive to build than large schools by showing ways in which small schools *could* be built in the contemporary city. Participants were asked to explore ways of creating school space not often considered in the normal course of school building, to investigate the possibilities of a strategy of creative "urban opportunism" that would take advantage of the existing fabric of the city and of various types of public and private development already underway in many neighborhoods. The specific approaches considered included the use of very small sites, renovation, subdivision of larger buildings, connection to commercial development, and combination with other public facilities. The design study was driven by the idea that, with the imagination and will to do so, a way—or many ways—could be found to make small schools feasible.

Work on the New Schools project began during the spring and summer of 1989. Committees of architects and educators worked with Architectural League and Public Education Association staff and board members to research and formulate the architectural programs that would guide the participating architects. Alex Cohen, project coordinator for New Schools for New York, reviewed demographic projections and the Board of Education's construction plans to identify a variety of neighborhoods that need schools. The committees met with principals Deborah Meier and Cesar Previdi and superintendent Argie Johnson to develop an overall sense of how school space could be better designed to meet the particular needs of small schools. Interviews and meetings were also held in neighborhoods around the city to elicit from school board members, administrators, teachers, and others ideas about what kinds of schools they want and what their neighborhoods need.

Based on this information, the New Schools committees chose six sites in four boroughs for the design study. Each site presented a different architectural and educational problem, ranging from renovation of an abandoned 1906 school as an alternative high school and community center to the creation of a new kindergarten through twelfth grade school in a ravaged area of the South Bronx. The committees drafted programs for the six sites, incorporating ideas gleaned from the rounds of community meetings, and, in September 1989, issued an open call to architects and designers to participate in the project. That fall, more meetings were held in each of the six neighborhoods with school board members, principals, teachers, parents, day-care providers, planners, and politicians. At this stage the goal of the meetings was to acquaint the participating architects directly with the communities for which they would be designing and to allow them to hear for themselves what people want of the schools in which they work or to which they send their children.

The extended round of consultations also served to explain to educators and parents the range of choices inherent in the programming and design processes. Asking those who will use a school what they want is sometimes avoided by school administrators, who fear that the only result will be an unrealistic wish list, necessarily leading to disappointment. Clearly, however, people who use schools will only be able to make wise choices about school design if they have thought about what they want and if they have been informed fully about the limitations that govern the school-building process. One important outcome of New Schools for New York was the

awareness it raised among educators, parents, and community members, by helping them understand how many decisions and how many possible alternatives are involved in any school design.

Architectural proposals for the six sites were exhibited in early 1990 at the Urban Center, the home of the Architectural League. While the designs were on view, a jury of architects and educators convened to evaluate the projects and identify those that wholly or in specific features successfully dealt with the programs and offered useful ideas (FIGS. 1 AND 2). The jurors were architect Henry Cobb of Pei Cobb Freed and Partners; Anna Hopkins, director of the Grand Street Settlement and the Grand Academy; Amy Linden, chief executive for school facilities of the New York City Board of Education; Deborah Meier, principal of the Central Park East schools; architect Susana Torre of Susana Torre and Associates; and engineer Leslie Robertson of Leslie E. Robertson and Associates. The exhibition subsequently traveled to the International Design Center in Long Island City, Queens; the Bronx Borough Hall; Teachers College, Columbia University; and the Pratt Institute School of Architecture in Brooklyn. Projects for the individual sites were also presented in smaller exhibitions in Washington Heights, Sunset Park, and Harlem, and evening sessions were held so that those who had earlier contributed their ideas could react to what the architects had produced.

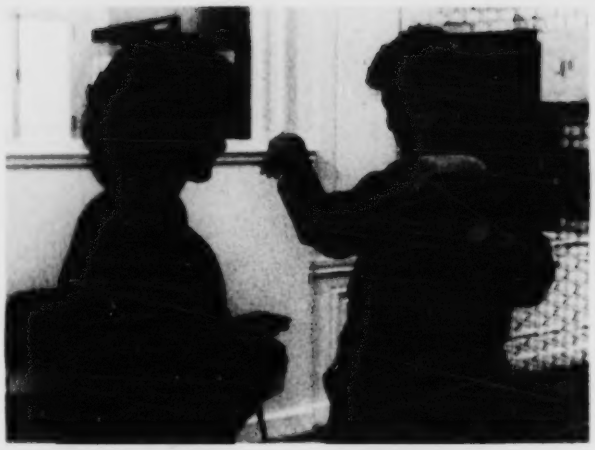

FIG. 1 *Jurors Amy Linden (left) and Deborah Meier (© Cervin Robinson)*

FIG. 2 *Jurors (left to right) Susana Torre, Henry Cobb, Anna Hopkins, Deborah Meier, and Paul Byard (© Cervin Robinson)*

These diverse opportunities for talking about the projects again served both the participating architects and the educators and parents with an interest in the designs. They provided community residents a chance to respond to specific design ideas, allowed the architect-participants to get reactions to their work, and helped create the body of information through which the League and PEA have further evaluated the concepts the project was designed to test and examine. This last purpose was enriched by all earlier parts of the project, and it is precisely the point of the process that Henry Cobb has cogently called "architecture as investigation."

DESIGNS FOR SCHOOLS

The conversations of the New Schools organizing committee with teachers, principals, parents, administrators, and students produced a great deal of information on how people want schools to function and to feel. They want schools that are bright, spacious, and secure, that offer views to the outside world, that provide rooms of a variety of sizes so that small groups or the entire school can meet together. Teachers and administrators desired some flexibility (for occasional team teaching, for example), but they reject "open classrooms." They want rooms or spaces where teachers can meet and talk, make phone calls when necessary, counsel a student or meet with a parent, store teaching materials, personal belongings, and lunches, and generally have a home base that is continuous and secure. Students need places to meet casually, talk, read, or think. Most fervently requested was enough warm, welcoming, safe space for everyone. It is worth serious attention from architects that the qualities people desired demand not specialized *school* design expertise so much as skillful and thoughtful disposition of the factors that govern the design of any building: light, space, building orientation and views, and the texture and color of materials.

The following discussion focuses on a specific design challenge or group of related issues central to each site. The projects that the jury considered to be the best solutions for each site are analyzed, along with a selection of other proposals that demonstrate different approaches or serve to illustrate a particular issue of significance to the program and site under discussion. Each section concludes with observations on the strengths and weaknesses of the designs and what they suggest about how the programs could be strengthened.

MORRISANIA: THE IMAGE OF A SCHOOL

What should a school look like? This is an issue for any school, of course, but it becomes particularly important for a small school. Should the school building emphasize the public nature and civic importance of the institution within, or should it reflect its intimate scale and orientation to a particular small community of individuals? Should it be open, symbolically and practically, to the surrounding neighborhood, or should it emphasize its role as refuge and enclave? As Deborah Meier asked during the jury's evaluation of projects, should architects design for an ideal situation in which all area residents are welcome at the school (and it assumes its rightful role as center of the community), or should they design for the reality of needing to closely monitor all access to the school in order to keep out possibly dangerous intruders?

The projects for the Morrisania site in the Bronx offered the most dramatic range of approaches to these questions, perhaps because the architectural program for Morrisania was the most complex of all the New Schools prescriptions.

FIG. 3 *Morrisania site (Courtesy Sanborn Map Co.)*

FIG. 4 *Morrisania site, looking north on Clinton Avenue toward Jefferson Place*

Architects were asked to design a kindergarten through twelfth grade school, which was divided into elementary, middle, and high school components. They were designing for a neighborhood that lost a large proportion of its population in the 1970s and early 1980s and that still has many abandoned buildings. On the edge of Crotona Park, several blocks to the north, the City of New York is renovating several hundred apartments for homeless families. A block and a half to the south of the New Schools site is a small but still functioning commercial hub with a New York Public Library branch, and immediately to the west of the site is a senior citizens residence (FIGS. 3, 4).

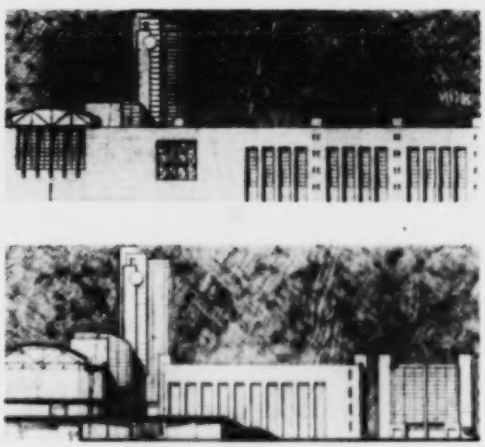

FIG. 5 *Michael Dodson, project for Morrisania. Clinton Avenue elevation and section through plaza*

Architects working on the Morrisania site took one of two broad approaches to the relationship of the school to the street and the community. One strategy was to treat the facades of the school as walls, emphatically separating the public world of the street from the inner precinct of the school.

The project by Michael Dodson and colleagues evokes the image of a walled medieval town accessible only through controlled gates at two entrances (FIG. 5). The exterior facades have relatively few openings; most of the natural light comes through the much more open facade on the interior courtyard. The more animated forms by

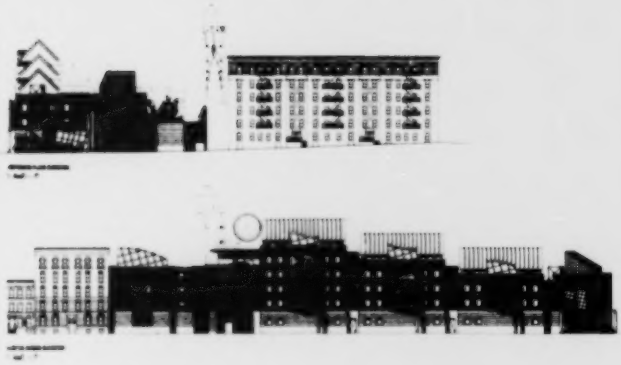

FIG. 6 *Intergroup +, project for Morrisania, Jefferson Place and Clinton Avenue elevations*

Intergroup + (FIG. 6, 7) are organized on a very similar site plan, with access controlled through gatehouses at the northern and western edges of the site. Similarly, although its image is of an enclosed mall rather than a fortification, Basil Carter's project (page 61) focuses all activity on an interior courtyard around which the building forms a wall. Using a different approach to accomplish the same end of separation, Keenen/Riley (page 65) organize their school in a slab building lifted above a ground floor with easily controlled access through one entrance.

The opposite strategy, visually emphasizing the school's accessibility to the community, is expressed in its most extreme form in the project by Cameron McNall with HMFH Architects. In this project the main facade of the school is a glass wall that makes the school a virtual x-ray when seen from the street (FIG. 8). The main circulation of the building occurs in corridors open on one side to the glass wall and visible to all passersby. The architects have designed a screen of moving parts to modulate light entering the building through the wall, and that would restrict to some degree what could be seen from the street at any given moment, but the intention is clearly to make the school symbolically transparent to its neighborhood.

The project by Strickland Carson Associates with August G. Schaefer sits somewhere between these poles. The architects established a small campus by repaving Clinton Street between the two sections of the site (FIG. 9).[2] They designed separate buildings for the elementary school and the middle/high school, with a paved outdoor area in between that serves as a pedestrian connection from Clinton Street to Franklin Street and as a gathering place for students during breaks. Unlike those projects in which the entrances to the school are strictly limited and controlled, this project depends on the school asserting control over the entire campus through intensity of use and surveillance.

Perhaps not surprisingly, because of the size of the *overall* program, most of the Morrisania proposals do not communicate that the institutions they house are small schools. The projects by Intergroup + and Strickland/Carson/Schaefer make the most successful efforts by breaking down

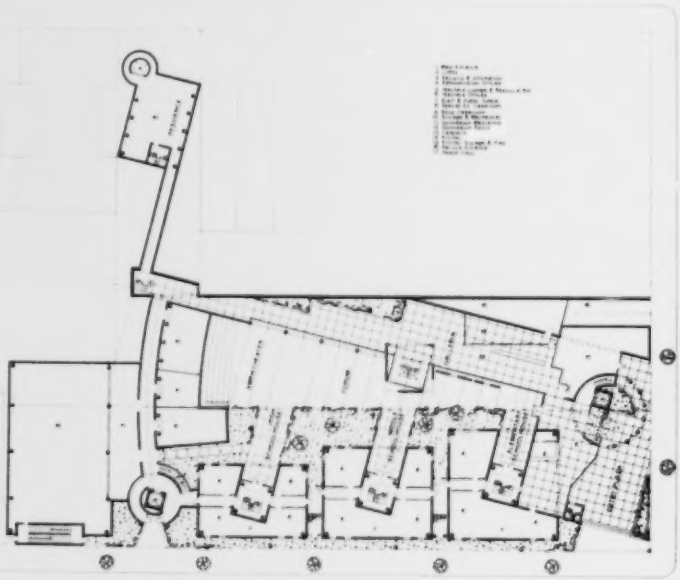

FIG. 7 *Intergroup +, project for Morrisania, first floor plan*

FIG. 8 *Cameron McNall with HMFH Architects, project for Morrisania, model*

the program into less intimidating parts. The scheme by Intergroup + places the elementary, middle, and high schools in separate buildings, the elementary school short and squat, the high school taller and less bulky, the middle school in between. The Strickland/Carson/Schaefer project's pitched roofs—a form often associated with residential architecture—help this group of buildings convey a sense of being somewhere between "house" and "institution," which makes the complex seem more welcoming than a number of the other proposals.

Even more important than the exterior appearance of a school is its internal organization and, as Susana Torre suggested, the model of society and the world that the school's plan and environment suggest to a child. Of all the projects designed for New Schools for New York, the jury most admired the design by Strickland/Carson/Schaefer for the nature of the spaces proposed and the attitudes about teachers and children that the spaces communicate. Overall, the Strickland/Carson/Schaefer project is developed around themes of comfort, welcome, the collegiality and professionalism of teachers, and the creation of a non-institutional environment. The central idea of the scheme is a classroom suite, which includes two classrooms, two teacher's offices, and a small

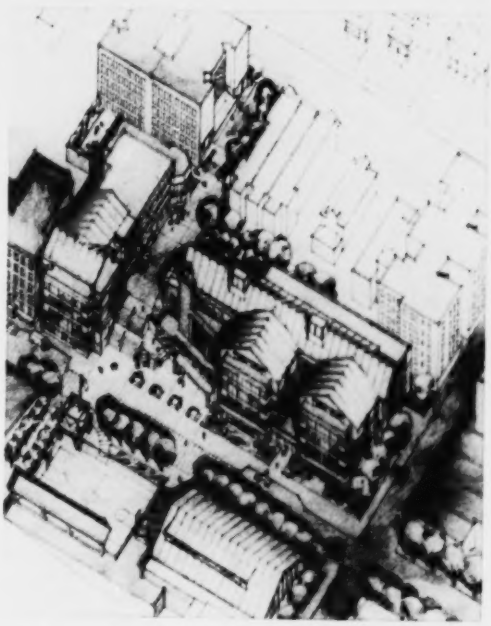

FIG. 9 *Strickland/Carson/Schaefer, project for Morrisania, aerial view*

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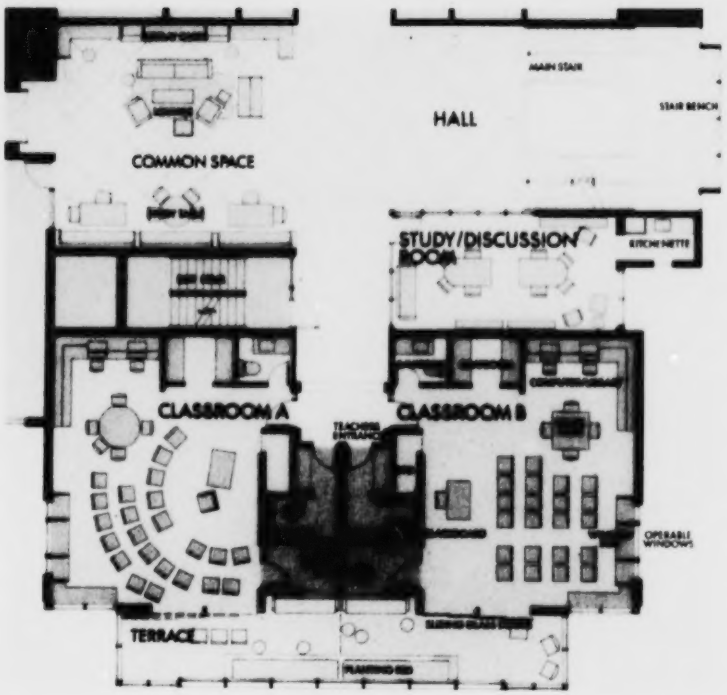

FIG. 10 *Strickland/Carson/Schaefer, project for Morrisania, plan of classroom suite*

group study or meeting room (FIG. 10). This suite is repeated—flipped or modified as necessary—to form the core of the elementary, middle and high schools around which other spaces are organized (FIG. 11). Each classroom has its own bathroom—located so that it does not open directly into the main space of the classroom—and generous storage and display space. The teachers' offices, which are placed side by side between the classrooms, are accessible from the hallway or from the adjoining classroom. The offices could be joined and shared if desired. Many of the classroom suites open to a terrace, which could be used for class projects or a breath of fresh air.

To reinforce the idea of the suite, the entrance to the classrooms is organized so that each two classrooms open off their own short side street, complete with display cases, off the main corridor.

The small group study or discussion room in the Strickland/Carson/Schaefer scheme is equipped with a sink and could have a small refrigerator and cooktop. The particular configuration and outfitting of this space were designed in response to suggestions made by Mark Weiss, principal of Bronx Regional High School in the South Bronx at the time. Mr. Weiss met with architects interested in working on the Bronx site and explained some of the organizational features of his school that would profit from spaces designed with their function in mind. At Bronx Regional, all students, teachers, and administrators meet twice a week in "family groups" of a dozen or so people to talk about school issues and whatever is going on in the out-of-school lives of the students. The group is a constant of a student's four years in school, and the activities of the groups and the places in which they meet can take on a home-like character. Group meetings often include cooking a meal together.

Other features of the Strickland/Carson/Schaefer plan reinforce the virtually residential

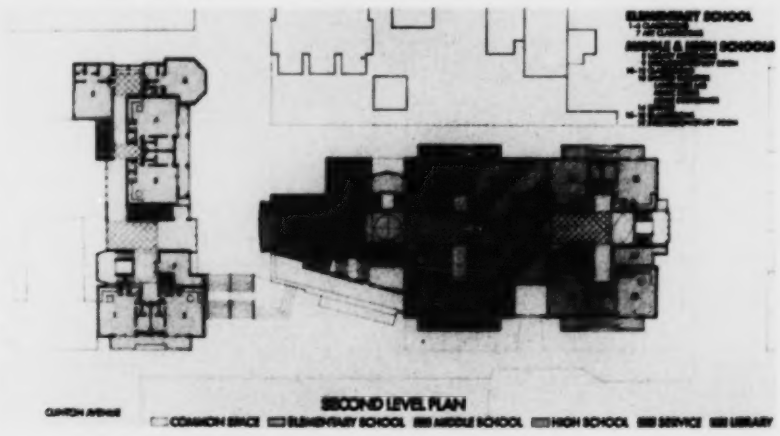

FIG. 11 *Strickland/Carson/Schaefer, project for Morrisania, second level plan*

FIG. 12 *Strickland/Carson/Schaefer, project for Morrisania, view of library*

quality of the school. The library is a large, comfortable room with a fireplace and lots of upholstered chairs (FIG. 12). Circulation spaces are designed for casual encounter and include display areas and places to sit and talk. The dining room is designed as precisely that, rather than as a more impersonal cafeteria with long institutional tables. Although it is not developed to the level of actual design, the Strickland/Carson/Schaefer scheme proposes that a large existing building near the site be converted into a dormitory for students. A variety of social service offices, workshops, and performance facilities for the community are also proposed for the first floor of the school.

Is the Strickland/Carson/Schaefer project much more elaborate and comfortable than most new public schools built in the United States? Yes, obviously. Is it excessively generous or luxurious? Not necessarily. If schools were evaluated, as they properly should be, in terms of long-term operating and maintenance costs as well as initial costs, and in terms of the economic and social ramifications of the success with which they educate their students and integrate them into the larger society, a school building that helps foster a real sense of connection and identification among students might turn out to be a relative bargain in the long run. At the instigation of Amy Linden, chief executive for school facilities of the New York City Board of Education and a member of the New Schools jury, the Strickland/Carson/Schaefer team was hired to participate in the programming phase of the design of the new West Side High School in Manhattan, so that the "classroom suite" concept they developed for their Morrisania project could be explored as a part of the new school.

FLUSHING: SPEED AND PRESENCE

The community of Flushing, in northern Queens, has become the commercial center of the new Asian immigration to New York. Korean and Chinese banks, stores, and service businesses increasingly dominate the downtown streetscape (FIG. 13). Until the recent downturn in the national and New York economies, several major new mixed-use and office developments were planned to capitalize on the intense commercial vitality of downtown Flushing.

Although schools in the community are already large and overcrowded, Flushing is scheduled to receive school additions rather than new facilities. Part of the reason the Board of Education has chosen to add on is the lack of

FIG. 13 *Downtown Flushing*

developable vacant sites for new schools. The New Schools project sought to investigate an alternative that could have wide applicability in downtown districts, as well as in the suburban office parks that are an increasingly common feature of the American landscape. Architects were asked to insert a small middle school for 200 sixth, seventh, and eighth graders into one or more floors of an office building planned for development on Northern Boulevard, a major commercial and institutional artery on the north edge of Flushing's downtown (FIG. 14). The goal was to test whether effective, appealing school space could be created quickly and economically in an office building. Schematic design of the proposed office building in Flushing had been done by architects Brennan Beer Gorman for Dominick Ciampa, the developer, and both he and project architect Mario LaGuardia assisted the New Schools project by providing drawings and information on the building's form, structural system, and proposed uses (FIG. 15).

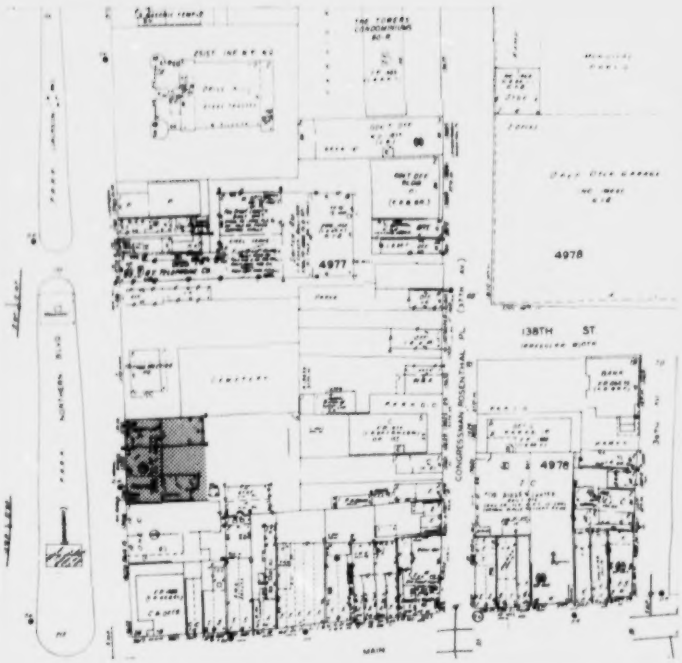

FIG. 14 *Flushing site plan (Courtesy Sanborn Map Co.)*

Only three teams of designers took on this untraditional architectural problem, but their projects demonstrate radically different ways to approach it. The group of Gans, McGrath, Robbins, Mosseri, taking the view that the school would be a permanent part of the new building, proposed to change the facade of the building to signal its presence. While they respected the structural system and dimensional module that had been designed for the office building, they carved away the facade on the Northern Boulevard side and made it project on the side perpendicular to Northern Boulevard, showing precisely what space the school occupies (FIG.16). The facility will be entered either via a small elevator designed solely for school use (to be located in a shaft to be built outside the building), or up a ramp that zigzags up to the second floor school entrance and lobby. The courtyard on this level forms the heart of the school. Open above for three levels, it is surrounded on each level by corridors providing access to the class-

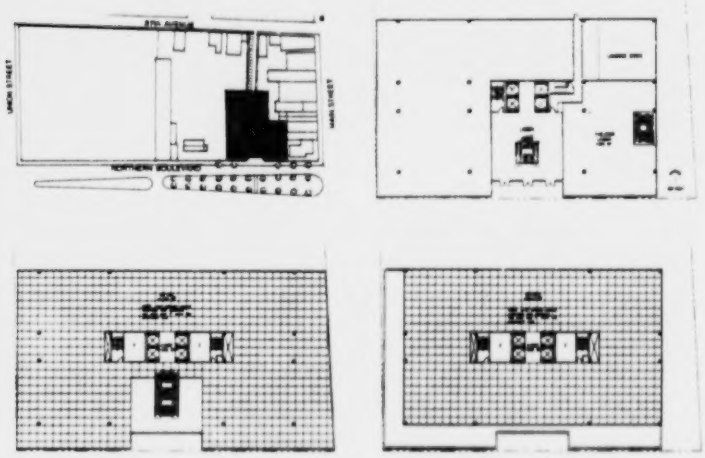

FIG. 15 *Proposed mixed-use commercial building for Flushing, Brennan Beer Gorman Architects. Clockwise from top left: Site plan, first floor plan, typical office floor plan, typical retail floor plan*

FIG. 16 *Gans, McGrath, Robbins, Massert, project for Flushing, exterior perspectives*

rooms (FIG. 17). Student lockers jut into the atrium at each level, reinforcing the role of the courtyard/atrium as gathering place. Outdoor play space, accessible from the second level of the school, is located on top of the parking garage which would be developed behind the office building. A large cafeteria, which could also be used as a community meeting room, is located on the first school level, easily accessible for nighttime use and capable of being opened while the rest of the school is closed. Also on the first level, and the one above, are language labs, prominently placed at the northeast corner of the building and easily visible from the street. These labs form the real and

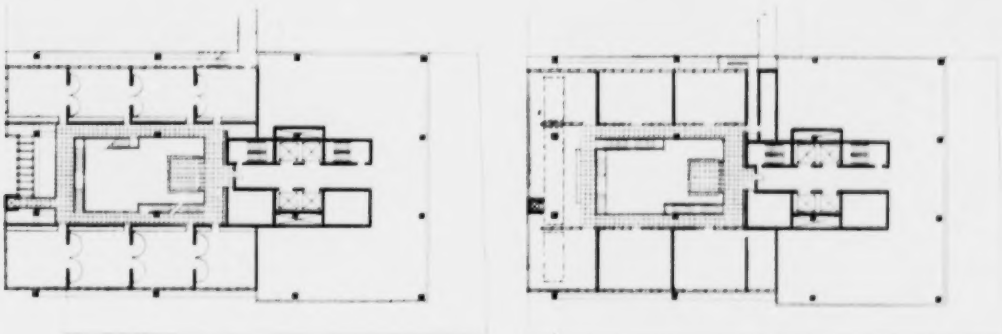

FIG. 17 *Gans, McGrath, Robbins, Massert, project for Flushing, plans at levels 42.50 and 55.00*

symbolic face of the school to the community, in which the demand for English-as-a-Second-Language classes is great.

In comparison to the Gans, McGrath, Robbins, Mosseri scheme, Annamarie McKinney proposes a much more modest allotment of space (FIG. 18). Focusing on the need for speed and flexibility, her method of dividing the area resembles the way in which a standard office building might be outfitted for any tenant. The exterior envelope of the building is not changed in any way. While the entrance to the school is nondescript and anonymous (FIG. 19), McKinney's simple division of the floor space would make it possible for a school to be created quickly out of leased space, which could be converted back to office or other use just as quickly.

The addition of a school to the mix of uses in a larger building offers the significant advantage that the building operation could be streamlined, and the time pressure that any developer brings to bear on the contractor for his project would also apply to construction of the school. The school/office building combination may offer educational opportunities as well. For example, New York City Chancellor Joseph Fernandez and others have advocated the inclusion in the workplace of facilities for the care of employees' children. Our intent in siting a middle school in an office building was to expose students to a work environment at the age when they are or should be beginning to think about careers. The Gans McGrath project provides a carefully designed facility suitable to the permanency of such strategies. The McKinney approach—the adaptation of leased space in existing office buildings—stresses the advantage of flexibility: Space can be created fairly quickly to meet unanticipated enrollment changes, but it also could be changed back to office or into other use quickly.

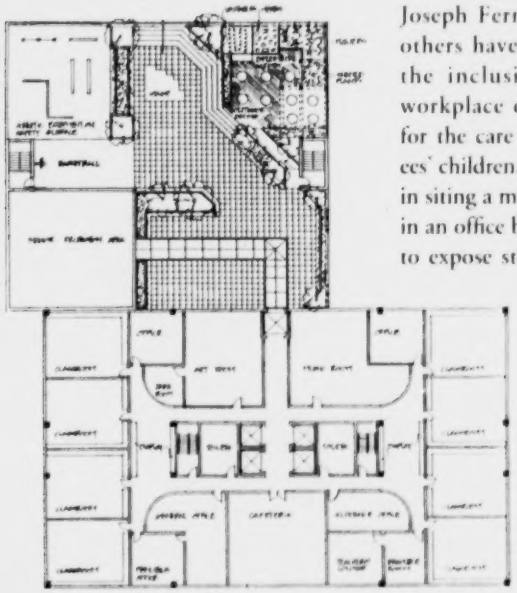

FIG. 18 *Annamarie McKinney, project for Flushing, plan*

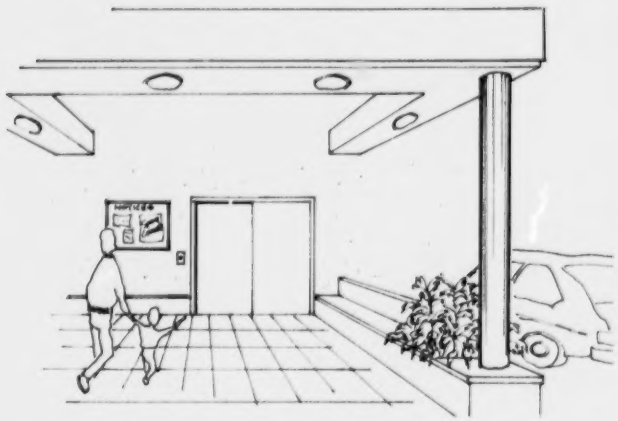

FIG. 19 *McKinney, project for Flushing, entrance to school*

Discussion of these projects by the jury unearthed an interesting dichotomy in the reactions of architect Henry Cobb and principal Deborah Meier. Cobb found the Gans, McGrath, Robbins, Mosseri scheme far more compelling than others for the site, not only for the inventiveness and intelligence of its architectural strategy but also because he felt that even schools in office buildings should have some visible presence from the street. The city should not be given over entirely to commercial structures. Meier, on the other hand, felt drawn to the McKinney scheme by its very simplicity and the speed with which it could produce school space. She reminded the other jurors that "any building can be a school." That is, a school, which is made up of the relationships between teachers and students and students and peers, should not be confused with a school building. She believed that a good school could easily be established in the spaces proposed by the McKinney design and the advantages of simple and speedy construction were too significant to be dismissed.

HARLEM: SHARED FACILITIES AND MULTIPLE USE

The Bradhurst area of Harlem, bounded by Adam Clayton Powell Jr. Boulevard on the east, Edgecombe and Bradhurst Avenues on the west, West 155th Street on the north and West 139th Street on the south, is the subject of a major neighborhood revitalization plan developed by the Harlem Urban Development Corporation. The HUDC's plan addresses housing construction, economic development, social service provision, and urban design, and has as an important focal point the recommendation that Public School 90 (vacated by the Board of Education in the 1970s and now derelict) be renovated as a community center. The center would include day-care facilities, social services offices, an adult education facility, a health clinic, and a branch library, as well as an alternative high school for 250 students.[3]

P.S. 90, despite its neglect still a handsome building of brick and limestone, built in the familiar H shape that C.B.J. Snyder originated for New York City schools (FIGS. 20, 21), is situated on a through-block site between 147th and 148th streets, midway between Adam Clayton Powell Boulevard and St. Nicholas Avenue. Slightly off the main axis of the school across 148th Street is a large vacant lot; to the east of the school the City of New York is renovating a number of abandoned tenements as low-income housing. To the north are the landmark Paul Lawrence Dunbar Houses and the Harlem River Houses. Two blocks to the west is the Jackie Robinson Recreation Center, built during the 1930s and the site of one New York's enormous "regional" swimming pools. Across Adam Clayton Powell Jr. Boulevard is the superblock site of the middle-income Esplanade Gardens residential complex (FIG. 22).

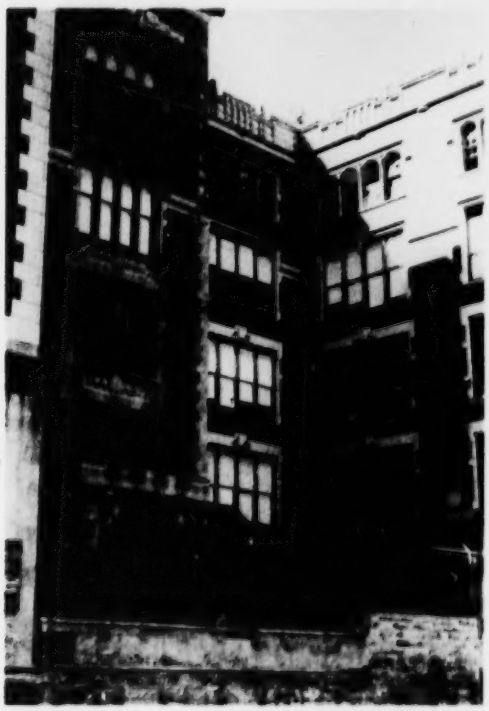

FIG. 20 *P.S. 90, 148th Street, Harlem*

FIG. 21 *Harlem site (Courtesy Sanborn Map Co.)*

The New Schools for New York program for this site asked architects to design for all the functions contemplated for the community center. The architects faced two main challenges: first, how to deal with the existing structure, and second, how to organize the various functions within the building. The complex program of the community center, the expectation that individuals of many different ages would use the building, and the combination of facilities that need to be totally open to the public, such as the library, with activi-

FIG. 22 *Looking east on 148th Street toward Esplanade Gardens*

ties that serve a defined group, such as the day-care center, meant that architects had to pay particular attention to issues of access, security, and circulation. Through their designs, the architects could determine to a large extent the ease or difficulty with which various groups using the building would interact.

Weiss Manfredi Architects chose to delineate very clearly the various uses within the center and to establish an ordered progression from most public to most private. They propose to demolish the connecting bar of the H of the existing structure, creating two buildings that face each other across a new mid-block plaza. The buildings are connected underground by a basement-level auditorium and sports facilities (FIG. 23). The new entrances would be located in the middle of the new facades, which would be opened up with full-height glass walls. Existing staircases are used, and elevators are located in shafts added to the plaza facades of the buildings.

The east building becomes the school by day, and the adult education center in the evening. All other functions of the community center are located in the west building. The space that would be most frequently used by the public, the library, would be located on the first and second floors of the south wing of the west building, and the senior citizens center located on the same floors in the north wing. The day-care center would occupy the fourth floor, with play space for the children in a rooftop playground created out of the fifth floor. The introduction of the open space of the plaza into this densely built-up neighborhood is both a strong appeal of this scheme and its greatest vulnerability, since the center would need to develop a strong sense of ownership and control over the plaza to keep it safe and welcoming.

Two other teams used the entire existing volume of the school and added to it. The group from the City College Architectural Center (CCAC) strongly emphasized the community center nature of the project and designed one large ground floor lobby, which serves all the different uses in the building (FIGS. 24, 25). The role of the lobby as community forum would be further developed by vending carts—for newspapers,

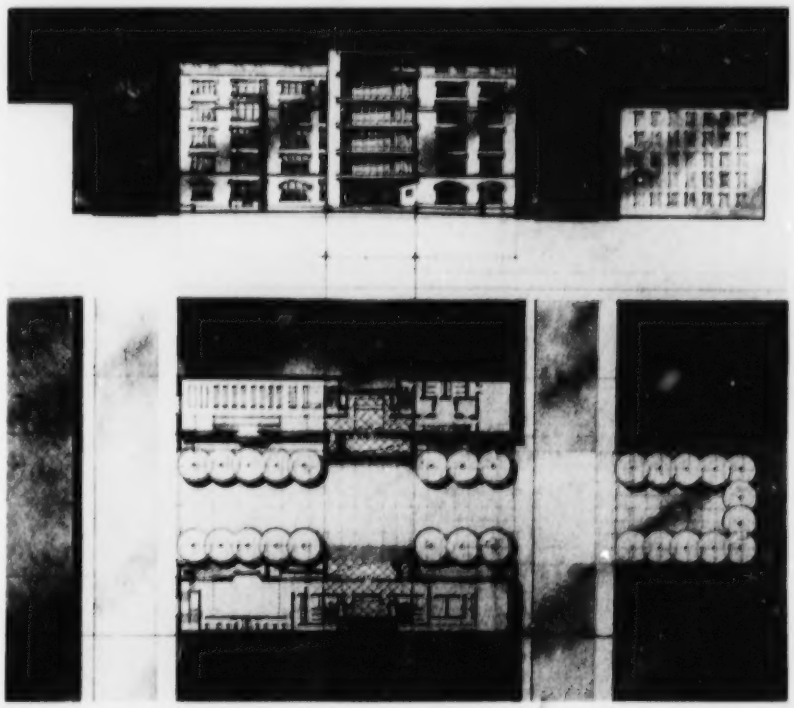

FIG. 23 *Weiss Manfredi Architects, project for Harlem, elevation*

crafts, stationery, and other goods—that the CCAC proposes should be a permanent feature. The centerpiece of the design, the branch library, would be directly adjacent to the lobby, while functions such as the day-care center, senior center, and the high school itself, each of which serves a specific clientele, would be located each in its own wing on upper floors of the building. The auditorium and sports facilities would remain in the basement level.

Francis Turner Architects also made the library a prominent feature of their design, but placed it in newly constructed space on the top floor. By mixing the various uses in the building, the Turner plan achieves some promising juxtapositions that could reinforce and enrich each other, but the plan also forces questions about security and how easily different parts of the building could be closed off when not in use (FIG. 26). The location of the day-care center on the ground floor and the day-care play area in the 147th Street courtyard, combined with the location of the senior citizens center on the second floor overlooking the courtyard, would make it possible for the senior citizens to watch the children at play, a very desirable match. But the circulation patterns in the building do not consistently achieve this kind of positive result. The ground floor has three entrances: one on 147th Street for the day-care center, and two on 148th Street, one of which serves the high school, and the other, the community center. Although this keeps the various users of the building separated at ground level, the plans of the upper floors appear to make it difficult to control access to the various levels of the high school from the elevator bank. The location of the library on the sixth floor is appealing both for exposure to light and symbolic importance, but it means that anybody who goes to the library will have to take the elevator. Overall, the building confuses rather than separates the public, semi-

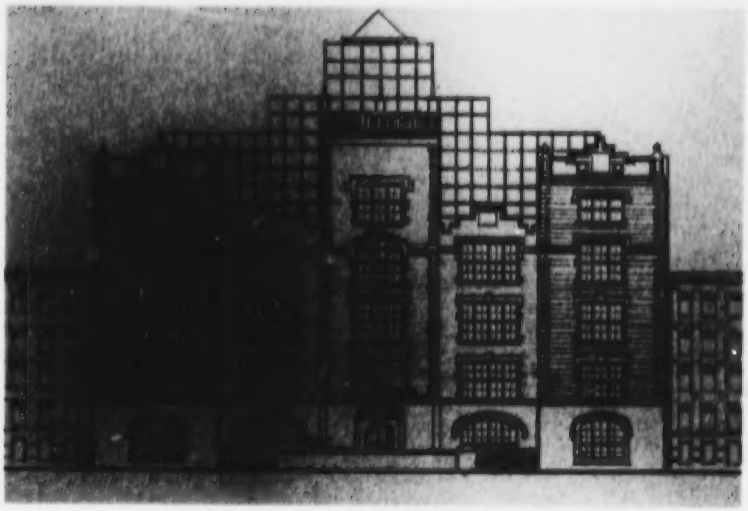

FIG. 24 *City College Architectural Center, project for Harlem, 148th Street elevation*

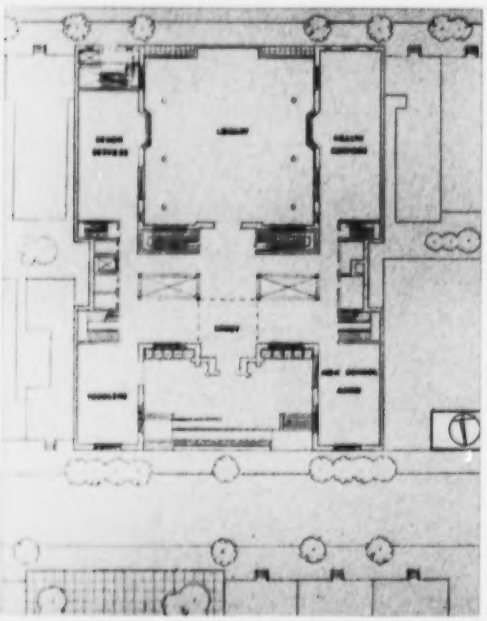

FIG. 25 *City College Architectural Center, project for Harlem, first floor plan*

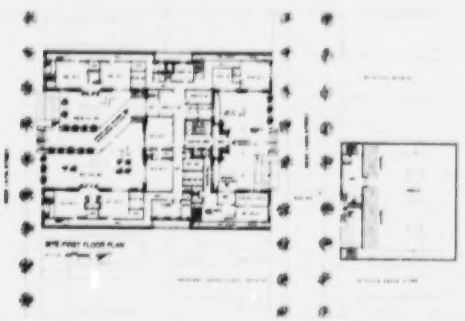

FIG. 26 *Francis Turner Architects, project for Harlem, first floor plan*

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FIG. 27 Sunset Park branch, Brooklyn Public Library, low building in center, with warehouse to right

public, and private (in this case meaning very use-specific) zones required by the building's many functions.

During the jury session, Anna Hopkins commented that projects for all the sites lacked imagination in the design of social service spaces and that all seemed to be designed for one "modality": a service provider behind a desk and a client in front of it. Her observation, which has particular relevance to the projects for Harlem, underlined the need for all the prospective organizational tenants in a complex facility to participate in defining how the building should work and how specific spaces could best be designed to support their particular use.

Gathering a variety of educational, social, and cultural activities and services under one roof should save money for the participating agencies and organizations, both in capital expenditures and operating costs. The most compelling reason, however, for the creation of a facility such as is proposed for P.S. 90 is not the potential money to be saved, but the vision it embodies of serving many of the needs of children and families in one place. P.S. 90 could become the bricks-and-mortar incarnation of the understanding that many students and their families have other needs that must be acknowledged and met if they are to succeed in school.

Making such a building work is no small organizational task: each agency, non-profit group, and other service provider involved will have its own regulations and budgets to meet, its own entrenched ways of working. Fairly apportioning costs, administering schedules, and maintaining security in such a situation are all major challenges. Careful planning and intelligent, informed design of the setting is by no means sufficient to make the building work for all its tenants, but its absence could make a challenging task impossible. The projects for the Harlem site provide an indication of the many considerations that come into play in designing for multiple use; just as important, they vividly demonstrate that in architecture, there can be radically different and still valid solutions to the same problem.

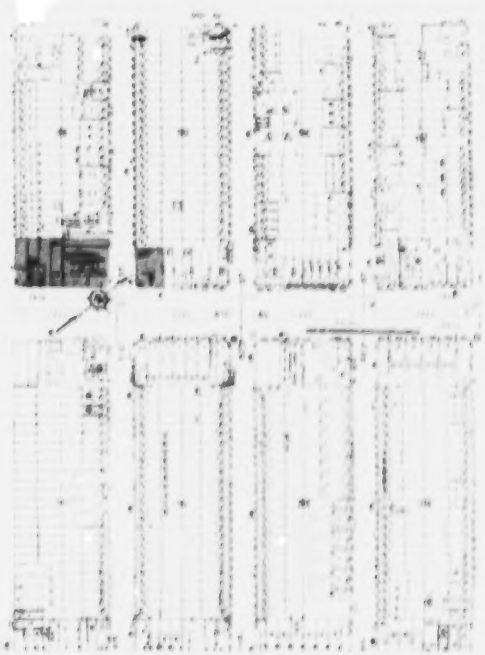


FIG. 28 Sunset Park site (Courtesy Sanborn Map Co.)

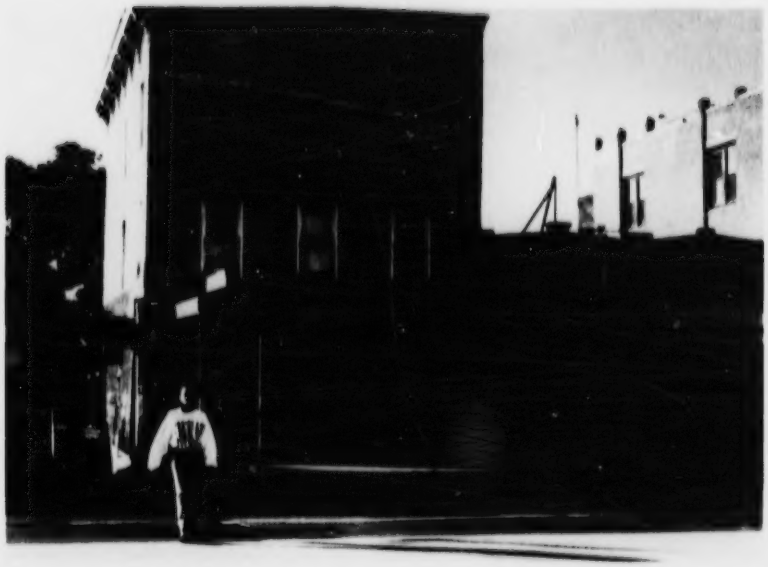


FIG. 29 *Buildings on Fourth Avenue at 52nd Street*

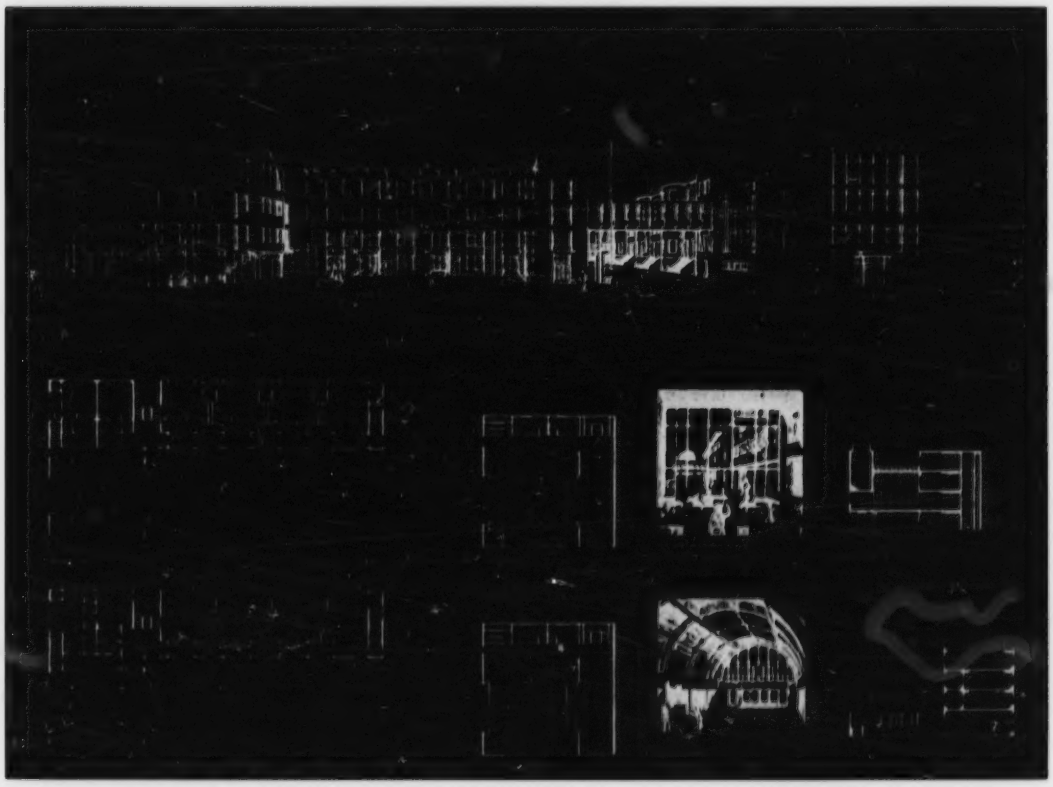
SUNSET PARK: THE SCHOOL, THE STREET, AND THE OUTDOORS

The Sunset Park program in Brooklyn also asked architects to combine more than one facility on a site, but the problem was more straightforward than at P.S. 90. The task was to design a new elementary school and new branch of the public library. In mid-1989 the local community school board had recommended to the Board of Education that its first choice of site for the second of two new elementary schools which are to be built in the district was the block front on Fourth Avenue, a major commercial thoroughfare, between 51st and 52nd Streets (FIGS. 27, 28). On one end of the site stands the one-story Sunset Park branch of the Brooklyn Public Library. The Sunset Park library is heavily used by the community and particularly by schoolchildren from the area. The remainder of the site is built up with low-rise structures and ground level commercial spaces (FIG. 29). New Schools architects could also choose to include the site, and structure if they wished, of a nineteenth-century industrial building across 51st Street as part of the complex.

The premise of the Sunset Park program was that both the school and the library could gain through joint construction of a new building or buildings on this site. By planning for both institutions to share such facilities as meeting rooms, an auditorium, and an audio-visual room, the most could be made of the city's limited resources, and the school-library complex could become a real community magnet. Parents, teachers, and residents of the area agreed that a new school-library would be heavily used by the community and should be designed to make such use as easy as possible. However, many parents and teachers strongly urged that the school library not be considered totally replaced by the public library; they asked that a separate area, even if it were located within the larger library, be set aside for the school's use.

With the task of accommodating and representing two important public institutions, and the community's strong desire to be able to use the facility for many sorts of activities, the Sunset Park architects had to focus particularly on the site plan as well as the relationship of building and open space on the site. As in most urban communities, security is a major issue in Sunset Park. How to keep out troublemakers, while also welcoming those who must and want to use the school and library, is a difficult design problem that had to be addressed.

Two interesting schemes, by Adam Gaon and Nick Isaak and Caliandro Associates, wrap the school building around a playground on Fourth Avenue. Both projects separate the playground from the sidewalk and street with a fence, which nonetheless allows activity in the yard to be seen from the street. In the Gaon and Isaak project, "front stoops" project into the playground, echoing the stoops of row houses on the side streets



FIGS. 30 *Adam Gaon and Nick Isaak, project for Sunset Park, perspective view of school (left) and library, first and second/third floor plans, and sections*

around the site and providing perches from which to watch children at play (FIGS. 30). The U-shaped building complex would create a strong sense of enclosure for the courtyard/playground, which is situated in an ideal location for community events outside of school hours. The site plan is organized around a strong axis parallel to Fourth Avenue, on which sit both the library and the gymnasium wing of the school. This proposal unifies the complex through a consistent architectural vocabulary, but the plan makes the library a separate entity, connected by a bridge to the school.

The Caliandro project divides the uses on the site differently, locating the kindergarten and pre-kindergarten classrooms in a building across 51st Street from the rest of the school with a playyard for these children adjacent to their classrooms (FIG. 31). The entire first floor of this building would be a playroom, and the fourth floor, a roof terrace that could also be used for play space. The architects propose a greenhouse-like "nature center" adjacent to this kindergarten structure, which presumably could be used by all children in the school.

The single large building stretching from 51st to 52nd Street would contain the main part of the elementary school and the library (FIG. 32). While the facade of the building seems a bit pedestrian and lacks animation, the building is extremely well designed for community use. The library, located in the south end of the building, can be entered directly from the courtyard or from the spacious lobby situated in the middle of the building to serve both the school and the library. This single main lobby is potentially one of the most significant advantages of this plan, since the library and

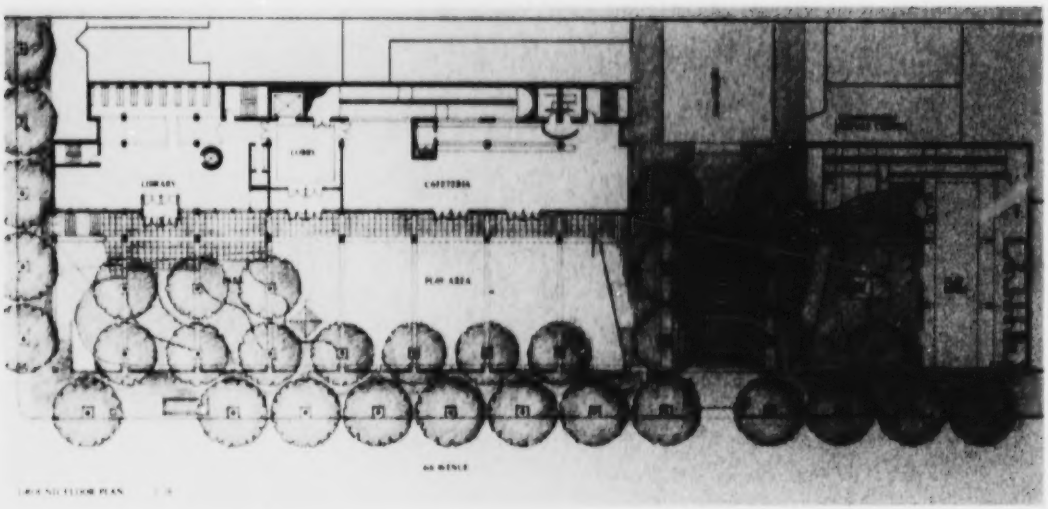


FIG. 31 *Caliandro Associates, project for Sunset Park, first floor plan*

school could possibly share security personnel. The cafeteria, filling the ground floor of the school side of the building, also would open directly onto the courtyard play area. With its many windows and direct access to the outdoors, it would work well for community events. Other spaces—including an auditorium, gymnasium, locker rooms, media room, and exhibition area—which would serve the school, library, and community, are to be located in the two below-ground levels of the main building. These floors are planned to make it easy to close off areas of the floor or building that are not in use, an important consideration for nighttime use of the building.

A traditional, if now neglected, New York approach to providing outdoor play space is to put it on the roof. Rooftop playgrounds and play terraces were often used in the past when not enough open area was available at street level, but they can serve another purpose: They make it much easier to control access and to supervise children at play. A number of projects for the Sunset Park site took interesting approaches to providing play areas and open space. The proposals by Bruce Lindsey and Paul Rosenblatt (page 110) and by the team of Curtis, Doern, Ginsberg screen the playground from the traffic and activity on Fourth Avenue by presenting to the street facades with few openings and little or no access. The Curtis, Doern, Ginsberg proposal locates the main playground on the southwest corner of the site and provides, in addition, several "private" play areas

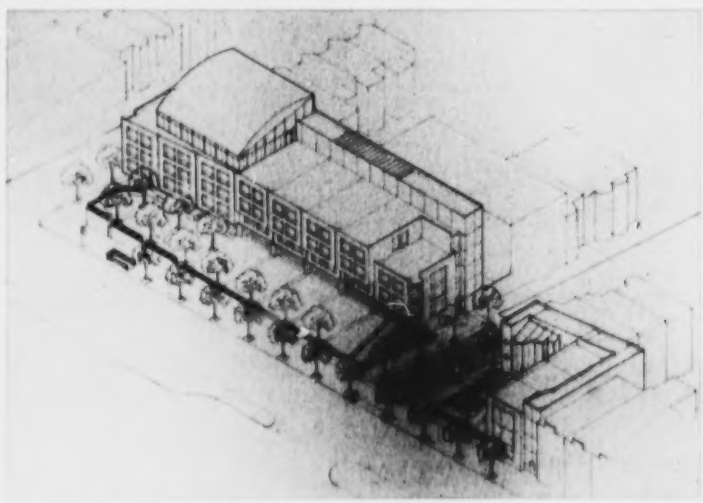


FIG. 32 *Caliandro Associates, project for Sunset Park, axonometric*

and outdoor terraces with direct access to classrooms for kindergarten and pre-kindergarten children (FIG. 33). HMFH Architects propose a major screened and lighted playground to fill the roof of the school, with an additional play terrace on the third floor adjacent to the cafeteria, and a protected, private play area at ground level adjacent to the kindergarten classrooms (FIG. 34).

An undeniable tension arises with any suggestion that two such powerful institutions as the Board of Education and the Brooklyn Public Library should consider combining resources and operating a joint facility. Each institution apparently worries that it will be forced into unacceptable compromises by the other. The New Schools project inadvertently created discord and suspicion in the Sunset Park community by investigating how a school and library could be combined. Representatives of the library system were not receptive to considering whether such an arrangement might benefit the library. Some residents feared that if the present library—which in early 1992 was open only three days a week, for a total of 21 hours—were demolished for any reason, it would never be replaced. Collaborations of this type are a challenge to organize and manage. However, the centrality of the libraries to education in New York, the city's current fiscal problems, and the enormous damage recent budget cuts have done to the library system cry out for new ways of managing and combining resources. Any way in which the physical settings of these institutions can help make their services available to more people for more hours must be considered.

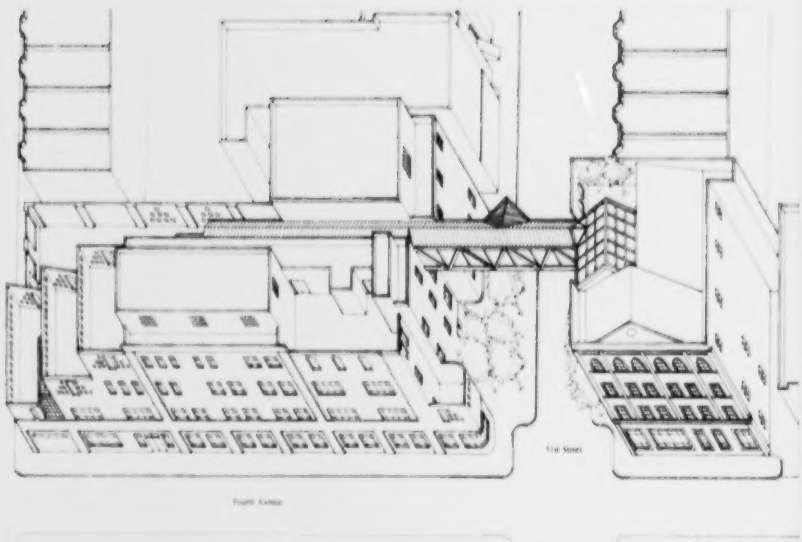


FIG. 33 *Curtis, Doern, Ginsberg, project for Sunset Park, axonometric showing rooftop play terraces*

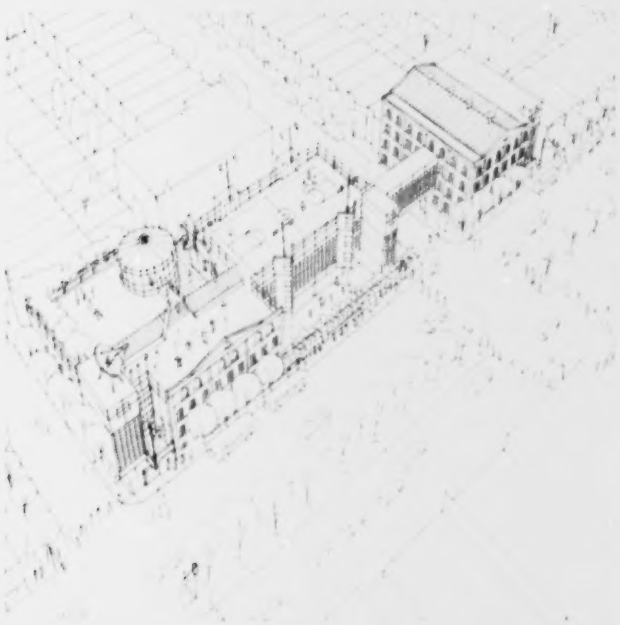


FIG. 34 *HMFH Architects, project for Sunset Park, aerial perspective*

WASHINGTON HEIGHTS: COMPETITION FOR SPACE

Architects working on the Washington Heights site had to figure out how to produce a great deal of usable space on a minimum amount of land. Washington Heights is a densely populated, largely Hispanic community in northern Manhattan. Several large parks define its edges, but on

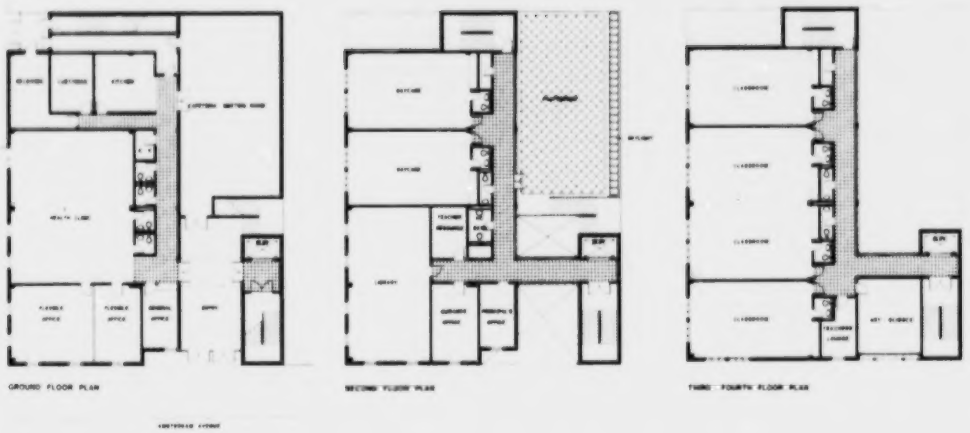
the interior blocks the dominant six-story apartment buildings create a very densely built environment. Over the last several decades the neighborhood has been the entry residence for the large number of Dominican immigrants to New York. As with most immigrant groups, the new residents of Washington Heights are on average quite young, with a large number of children and a large number of women of childbearing age in the population.[4]

FIG. 35 *View of Washington Heights site at 172nd Street and Amsterdam Avenue*

The Board of Education has not been able to keep up with the population growth in Washington Heights. Schools are extremely overcrowded, with a current need for thousands of new classroom seats.[5] Even though this is a neighborhood where the need for early childhood education is great, there are few programs for pre-kindergarten children within the schools due to lack of space. The Board of Education's Five-Year Capital Plan projects eight new elementary and intermediate schools for the district. Not all have been funded in the School Construction Authority's budget, however, nor have adequately-sized sites been located in this heavily built-up community.

FIG. 36 *Washington Heights site (Courtesy Sanborn Map Co.)*

There do exist many smaller vacant lots in the community, a number of them already owned by the City of New York. The New Schools architectural program for Washington Heights asked architects to explore whether an early childhood center serving 200 pre-kindergarten through second grade children, a day-care center, and a neighborhood health clinic could be accommodated on a site 80 feet by 100 feet at the corner of Amsterdam Avenue and 172nd Street (FIGS. 35, 36). The architectural problem presented by the Washington Heights site requires tremendous ingenuity and some enlightened skepticism toward accepted rules of thumb in school planning. One challenge of this program is that many of the uses need to be located on the ground floor and not all can be on a small site. It is also difficult to provide enough play space for all the children in the school. By evaluating different solutions to these



problems, it is possible to identify the compromises or trade-offs that may be acceptable or, alternatively, to determine which spaces or uses could be jettisoned. If an appealing, convenient school can successfully be built on this site, it may make feasible the use of an untapped inventory of small lots in the community.

A majority of the proposals for Washington Heights propose variants of three organizational strategies. The first type suggests a building that continues the street wall on 172nd Street and Amsterdam Avenue and locates play space on the northwest corner of the site, making it possible to bring light and air into the school from that side. The proposal by Daniela Bertol and David Foell (FIG. 37) is a very good example of this approach. Their plan locates the health clinic, cafeteria, and kitchen on the ground floor. The cafeteria doubles as a meeting room and has a stairway for direct access to the play terrace on its roof. This side of the first floor could easily be kept open for nighttime use while the rest of the school was closed. The day-care rooms are on the second floor, across the corridor from

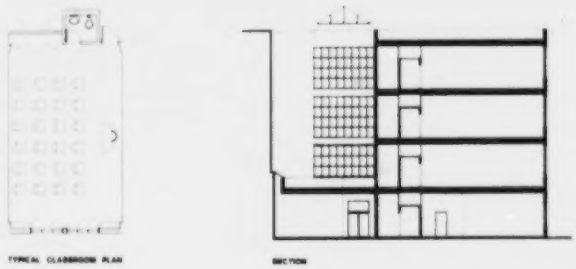


FIG. 37 *Daniela Bertol and David Foell, project for Washington Heights, plans and section*

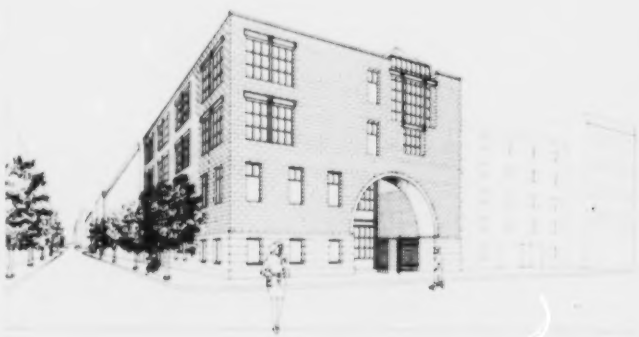


FIG. 38 *Bertol and Foell, project for Washington Heights, perspective*

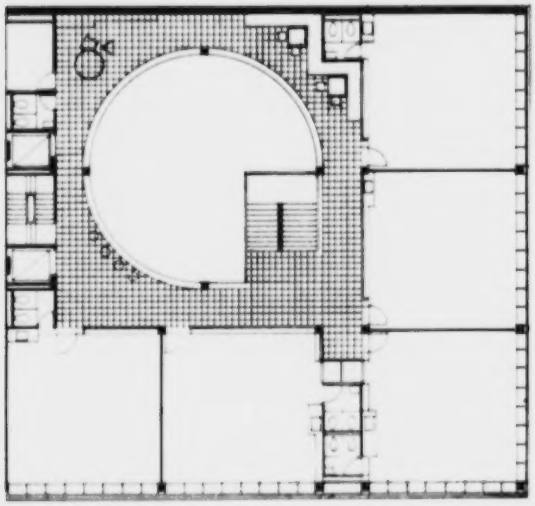


FIG. 39 *Martin della Paolera, project for Washington Heights, plan of typical floor showing atrium in upper left*

the play terrace. This second floor location may be somewhat inconvenient for parents with children in strollers—although they would have easy access to the elevator near the front entrance—but the inconvenience may well be compensated for by the usefulness of having the cafeteria/meeting room on the ground level. Two classrooms on the third and fourth levels, separated by folding walls, could also be used as meeting rooms. The simple, dignified exterior of the Bertol and Foell design emphasizes the entrance with a large arch and signifies the public nature of the building by the scale of the windows on the upper levels (FIG. 38). Windows or glass block on the walls of the school adjoining the play terrace admit light to the second, third, and fourth floor corridors.

A diagrammatic version of the same approach is Martin della Paolera's design, which wraps an L of classrooms and offices around an atrium on the northwest corner of the site (FIG. 39). The atrium serves as informal gathering and performance space, opening through the second and third floors, from which observers can watch the action below. Light for the atrium would come through the glass tile paving of a fourth floor outdoor patio, although for the patio to actually work as a light source would require a level of maintenance that might be impracticable. Della Paolera also locates the infant and toddler care rooms on the fourth level, inviting stroller jams in the small elevators during morning and evening drop-off and pick-up times.

The accomplished scheme by HMFH Architects is the best example of several projects that build over the entire site and bring light into the school through skylights or light wells (FIGS. 40, 41). In the HMFH design a long narrow skylit atrium bisects the school. Classrooms and play areas are on the southern, sunnier side, on 172nd Street, and the health clinic, offices, library, and teachers' lounge are on the northern side. The curved roof, jaunty flagpole, and recessed first and second floor glass facade animate the volume of

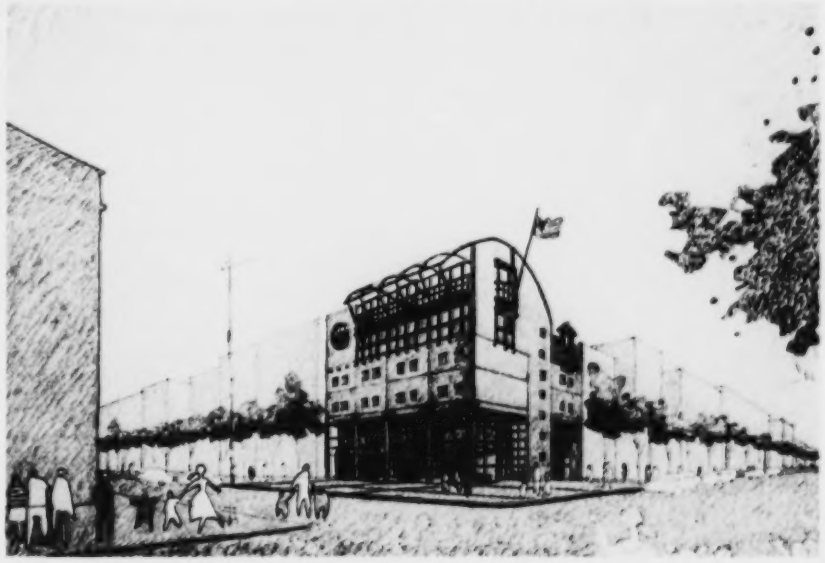


FIG. 40 *HMFH Architects, project for Washington Heights, perspective*

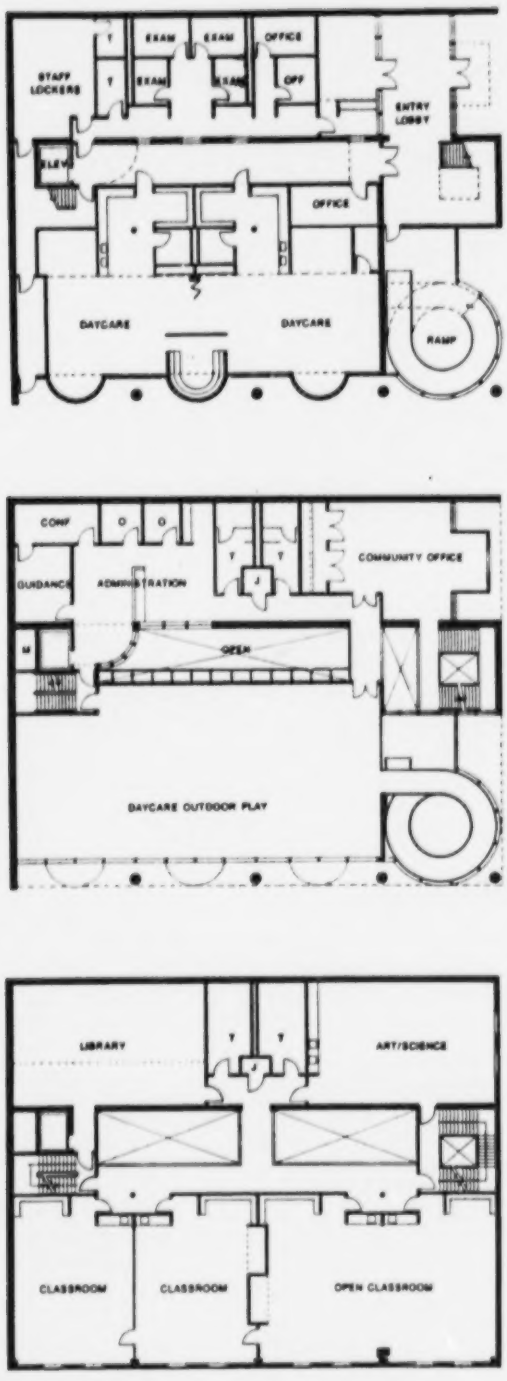


FIG. 41 *HMFH Architects, project for Washington Heights, first, second, and third floor plans*

the school. The architects have solved the problem of what use goes on what level in a rather untraditional way. The day-care classrooms occupy half the ground floor, and a spiral ramp connects the day-care area to play space above. Older children in the school, whose classrooms are on the third and fourth floors, play on the screened rooftop playground and have lunch in the fifth floor cafeteria. Once they climb the stairs to their classrooms in the morning, they never climb more than three flights to get to lunch or recess.

A third group of designers preferred to mass the building on the north and west edges of the site, opening the school toward the southeast. Jeffrey Kieffer (page 130) creates a large atrium to bring light to day-care classrooms placed below grade and proposes that the floor of the atrium serve as playspace for the day-care children. He also suggests a bridge over Amsterdam Avenue to permit children and their teachers to cross easily to Highbridge Park, which would function as the school's front and back yards.

None of the schools proposed for this site is perfect in every respect. The Bertol and Foell design does not meet the required amount of playground space set by the Agency for Child Development and Board of Education guidelines, although that problem might be partially solved by the addition of a screened rooftop playground. Jurors Anna Hopkins and Deborah Meier, both of whom run small schools, were not satisfied with the location of administrative offices in the school designs because the offices did not seem well enough integrated into the general flow of activity. They did point out, however, that as long as there are rooms in a variety of sizes, over time administrators can and will reshuffle the location of activities in the school. The jury also felt that the location and nature of the health clinic needed to be considered in more detail (which was more a criticism of the architectural program for the site than the designs) because it was not clear whether the clinic was meant to serve the school and its families only, or the community at large. The makeup of the clinic's clientele would affect how much interaction the clinic and its clients would have

with the school, and thus its physical relation to the other parts of the building.

During the exhibition of the New Schools projects in the community, an evening program was held at which the designers of the projects presented their ideas to an audience of community school board members, area residents, and Board of Education and Agency for Child Development (ACD) representatives. Following the presentation, an architect for the ACD commented that if the organizers of the design study had more thoroughly consulted Board of Education and ACD architects first, they would have known exactly how things have to be done. Then designers wouldn't have made "mistakes," such as locating cafeteria facilities above the first floor (a problem because food service providers object to transporting food and supplies). Clearly, this site requires tight packing of program functions and fresh thinking about what layouts are acceptable, or not, for various activities. Being able to locate a small school on such a site seems much more important, however, than *not* putting the lunchroom and kitchen on an upper floor. It was exactly to draw out these kinds of choices that the New Schools project was organized in the first place.

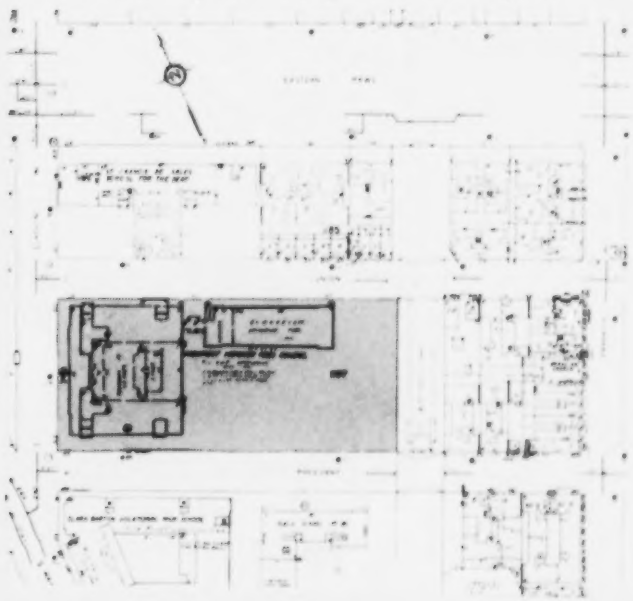


FIG. 42 *Prospect Heights High School, site (Courtesy Sanborn Map Co.)*

The plans of these schools, and the New Schools program of requirements to which the architects responded, presuppose an important shift in the way the staffs of the day-care center and school would interact. The staffs would share a teachers' room; the bookkeeper for the day-care center might share an office with the school secretary; the parents' room for the day-care center would double as the parents' room for the school. In other words, the two groups of employees would have to share many spaces and work together. Problems might arise, since the staffs of the day-care center and the school have to respond to different sets of requirements and answer to different city agencies. School buildings are affected by the rules of a variety of unions, while day-care centers are not. On the other hand, the personnel might relish and profit from the collegial interaction. In any event, the advantages of locating day-care and the elementary school lower grades in one building (where siblings could be dropped off together in the morning) and of having all-day programs developed for elementary school children whose younger brothers and sisters are in all-day day-care, seem more than worth the trouble of reconciling the requirements of different agencies. Likewise, using the small vacant sites that are available in this neighborhood to build small schools is economically, urbanistically, and educationally preferable to struggling to assemble large sites to accommodate too many children and too many teachers in one building.

PROSPECT HEIGHTS: AUTONOMY AND IDENTITY

For Prospect Heights High School, architects were asked to propose how to divide a large school, currently serving more than 2,000 students, into four academies—business arts, human services, culinary arts, and honors—each with its own student body, faculty, and administration, but sharing large spaces such as the gymnasium and auditorium. Prospect Heights High School was built in 1924 and has not been renovated since (FIGS. 42, 43). It is located on the edge of Brooklyn's great cultural center, across from the Brooklyn

Botanical Garden and near the Brooklyn Museum, Brooklyn Public Library, and Prospect Park. The school serves the communities of Crown Heights and Prospect Heights.

Prospect Heights High School was chosen as a site for the New Schools design study because its principal, Jerry Cioffi, had already made extensive plans for the four academies he wished to establish and because the school was slated for a $30 million renovation that theoretically could be designed to reinforce the new organization of the school. Cioffi asked that each academy have a separate entrance and that each be a compact unit that could function autonomously. A new building or wing was requested for the culinary arts academy.

Given the large and costly scope of the renovation planned for the school, the New Schools architects designed ambitious schemes which would very significantly alter and add to the existing building. The crucial choice made by each team of architects was whether to divide the school horizontally or vertically—that is, whether to designate one floor for each academy, or to locate the academies in multifloor wings. Each approach has advantages and disadvantages. Because of the enormous size of the existing building, using a single floor for each academy means that distances between classrooms may be very long. This approach has the advantage of retaining the existing fire stairs, which would be very expensive to add in another arrangement. But stairs that serve several separate academies could also be difficult to keep secure.

Division by wings, the approach chosen by Deamer + Phillips (FIGS. 44, 45) and Nancy Hitchcock (FIG. 46), creates the most compact spatial arrangement for the academies. Both of these designs articulate the corners of the buildings where one academy meets another, although the plans are different in most other ways. Hitchcock proposes that the existing main entrance to the building continue to serve all academies and shared functions. She remakes two

FIG. 43 *Prospect Heights High School, view of back of school, looking towards Classon Avenue*

existing staircases into glazed cylinders that also contain new elevators and act as the interior entrance portals into the separate academies. Each academy would have one primary staircase/entrance, and share a second staircase with the adjacent academy, an economical approach to meeting the need for at least two exit routes for fire safety. A new wing angles off the back of the building to serve the culinary arts academy. All shared spaces, including the cafeteria, main library, overall administration, and day-care area, are on the first two floors.

The Deamer + Phillips project even more substantially reorganizes the school. Entrances to public and common uses in the building—the auditorium and general administration offices—are located in the court formed by the U of the building, along with entrances to the human services, business, and honors academies. A new wing for the culinary arts academy, built further to the back of the site, creates a larger courtyard that the architects propose would serve the surrounding community as well as the school.

The plan of a typical upper floor (page 146) shows that the three academies in the existing building would be completely autonomous, which the architects have articulated on the exterior of the building by carving away the corners where the academies abut. This complete separation would be more expensive than Hitchcock's approach, since it requires additional staircases and additional elevators to be used solely by each academy. Its great appeal is that each academy would have its own distinct home, access to which could be easily controlled.

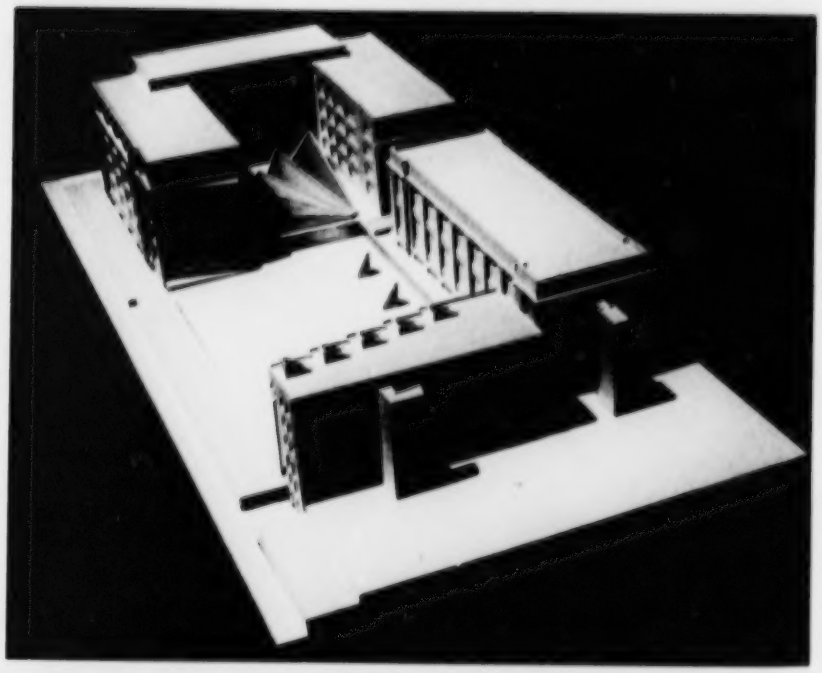


FIG. 44 *Deamer + Phillips, project for Prospect Heights, photograph of model*

FIG. 45 *Deamer + Phillips, project for Prospect Heights, first floor plan*

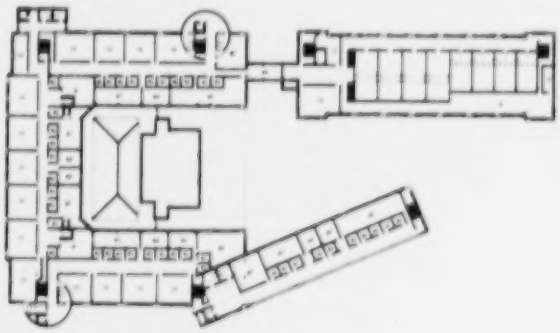


FIG. 46 *Nancy Hitchcock, project for Prospect Heights, typical floor plan*

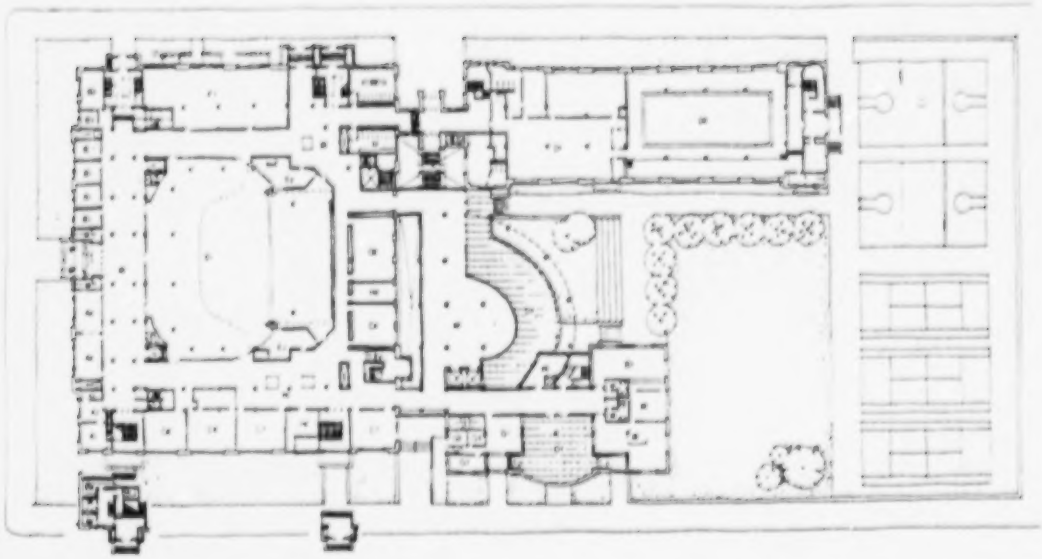


FIG. 47 *Ou Boyes Jong, project for Prospect Heights, first floor plan*

The teams of Ou Boyes Jong (FIG. 47) and Fradkin/Pietrzak divided the school horizontally, giving each academy its own floor (FIG. 48). Both teams connected the bars of the U of the existing school in order to complete the circulation path around each floor. All academies would have space in the existing building and in the newly constructed connector, which in the Ou Boyes Jong scheme would include faculty offices and cafeteria on each floor, and in the Fradkin/Pietrzak project would house new classroom space.

A hybrid solution, in which each academy has a multifloor segment of the building and each segment wraps around the corner, was proposed by a team called Et Alia (FIG. 49). The Et Alia project is not fully worked out—issues of access and egress are not resolved, for example—but it does suggest a way to organize the building to avoid the problem of too much horizontal spread for each academy. This proposal provides each academy with views out of two sides of the building and the potential of emphasizing the spot where the corridor turns the corner as an informal gathering place.

The PEA has argued that virtually all of the city's high schools should be divided into smaller, autonomous houses. If house plans are widely adopted, many schools will likely have to make do with superficial differentiations of the space belonging to each house, accomplished through

FIG. 48 *Fradkin/Pietrzak, project for Prospect Heights, axonometric*

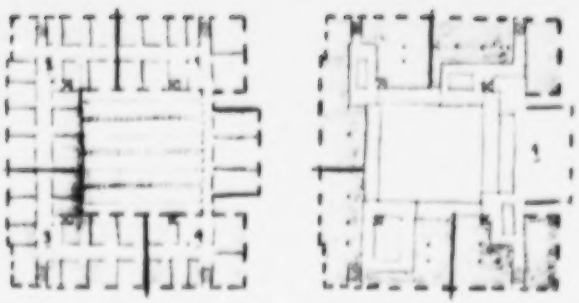


FIG. 49. *Et Alia, project for Prospect Heights, third and fourth/fifth floor plans*

changes in paint color, signage, or simply through assignment to a specific location in a building. Because of the large number of schools in the city that require very major repairs or renovation, however, many opportunities will also exist to plan the work to be done to facilitate division into houses. The problems and solutions identified by these projects for Prospect Heights provide a useful guide for how to approach such planning.

SCHOOLS AS A DESIGN PROBLEM

Some of the designs produced for New Schools for New York offer not so much practical solutions as visions of what qualities schools should have or how they might be built in the future. Far from being simply paper exercises because they are not immediately buildable, such designs can provoke thinking about features more "practical" schools lack. As architect Henry Cobb commented during the New Schools jury, "What is not sufficiently recognized . . . is that if you don't start in the category of concept, mood, spirit, and allow your imagination to move, without too much direct attention to the program . . . you may never get to the spirit of the building, especially when you're dealing with a very programmatically directed building like a school." A similar thought was expressed in the late 1950s in some eloquent advice from the American Association of School Administrators, which suggested the value of architectural competitions as a way of improving school design:

> *School-building planning should begin in the cosmos of dreams and then move to the point where it meets the demands of human progress. Educators and school-board members may not be readily aware of the benefits to be derived from a visionary approach to the early stages of school-plant planning, but the school system that seeks to move beyond the commonplace in function, form, beauty, and design of its school buildings will not overlook or neglect the limitless resources of the human imagination.*[6]

Projects that exhibit a rather poetic approach to certain standard requirements of the school program include those for the Sunset Park site by the Sonnino/Wong Studio and by Randall Cude and Duke Beeson. In addition to several more traditional play areas, Cude and Beeson propose a climbing cage, arch and pylon, and grasslands (FIG. 50), while Sonnino/Wong (page 112) include

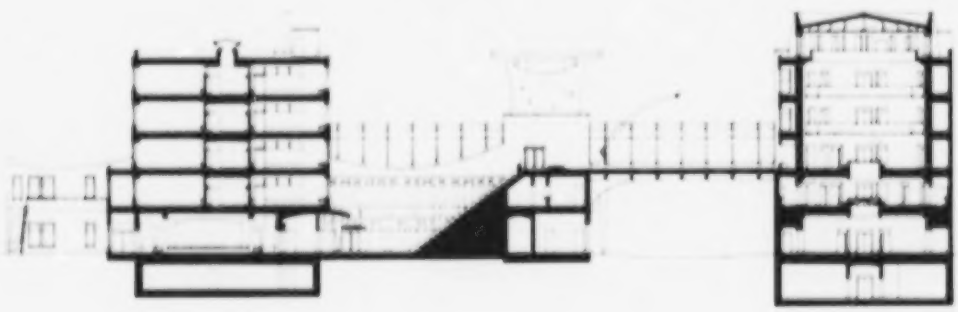


FIG. 50. *Randall Cude and Duke Beeson, project for Sunset Park, section through school and library with library at right*

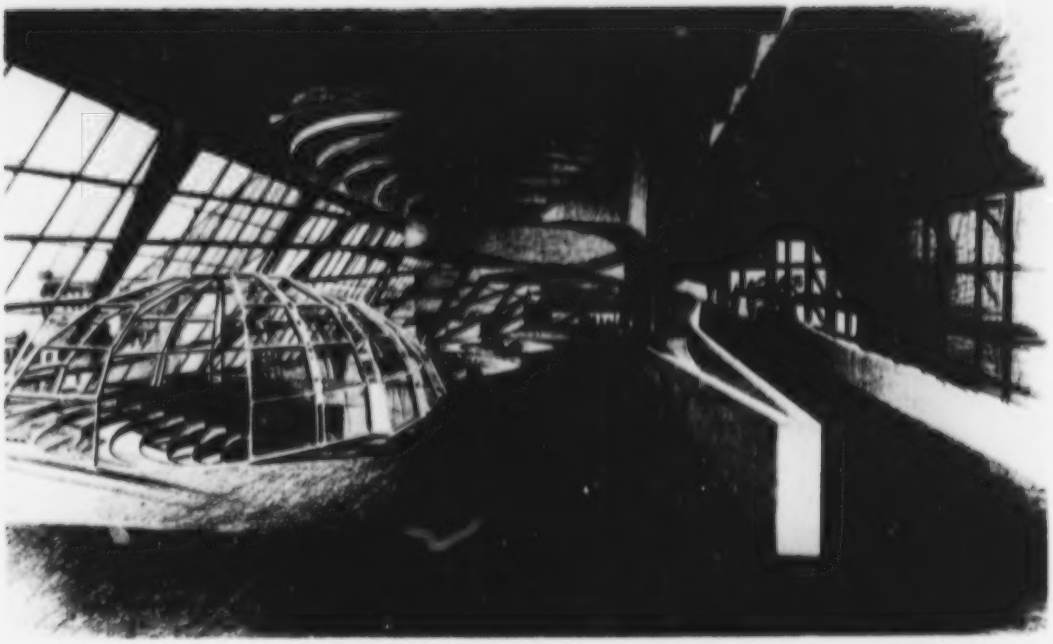


FIG. 51 *Yann Andre Leroy and Entrup Burkhard, project for Marrisania, sketch of interior, hallway*

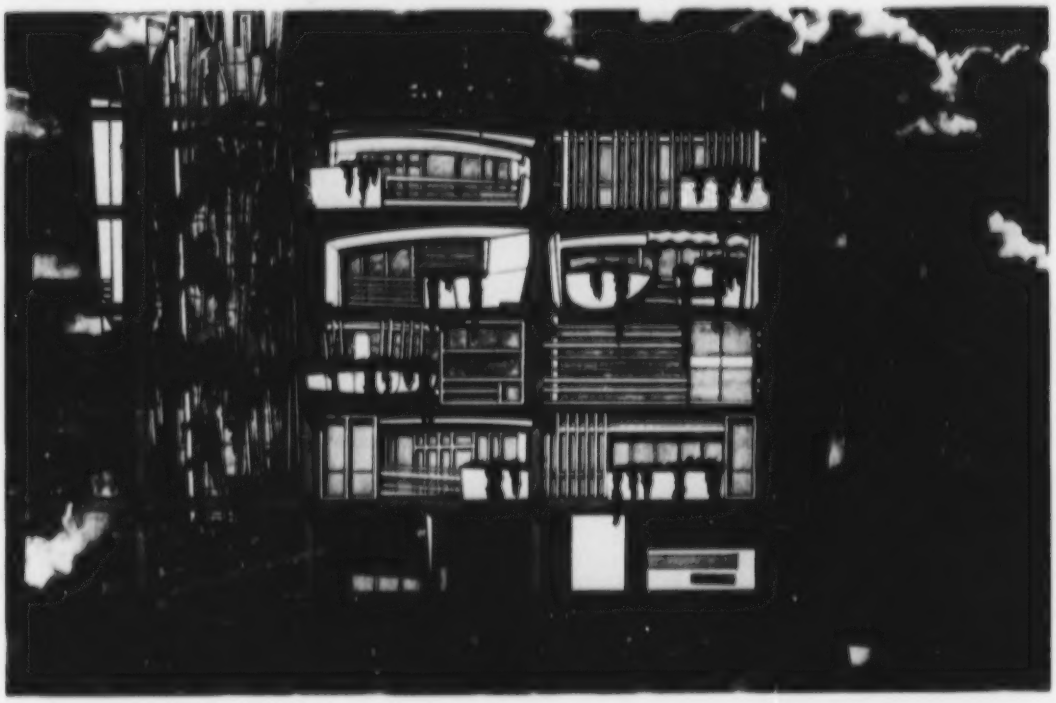


FIG. 52 *John O'Reilly, project for Washington Heights, Amsterdam Avenue elevation*

overlooks, a grove, a wind-scoop garden, observatory, greenhouses, and experimental garden. These may seem like the impractical products of the architects' reveries, but creating some of them would be more a matter of will and imagination than money. Such places could help make a school vivid and unique. As architect Susana Torre pointed out during the jury deliberations, school can play an important role in forming a child's—especially an urban child's—view of nature.

Yann Leroy and Entrup Burkhard's futuristic proposal for the Morrisania site suggests that a child's progress through grades in school be a literal progression to a higher level. The classrooms are amphitheaters to emphasize the openness of the learning process (FIG. 51). John O'Reilly's spirited design for the Washington Heights site proposes a school built of prefabricated plastic "pods" inserted into a steel structure erected on the site (FIG. 52). Presumably the school could be built very quickly and altered just as quickly if the neighborhood's needs changed. For the same site, Hitoshi Amano proposes a school of mobile classrooms that would sometimes be parked at the school headquarters building with its administrative offices, kitchen and cafeteria, and other facilities; at other times they could be located in a neighborhood park or on the road for a class field trip (page 117).

CONCLUSION

Can small schools be built in New York City, or in any other large urban school system? Some notable successes in New York in the building of schools that incorporate community facilities and aspire to a high level of design quality indicate that changes have been made in a system that has been famously logjammed for decades. If *small* schools are to be built, using the strategies of "urban opportunism" suggested by the New Schools project, more change is necessary.

Building small schools—and especially building many small schools quickly—will require a great deal of inventiveness and flexibility. The established procedures, entrenched rules of thumb, standard furniture and equipment orders and other usual ways of doing things that constrain school planning and construction must give way to a new openness to alternative approaches on the part of program writers and project managers." Sites previously thought to be too small for schools will have to be reconsidered. The Board of Education and other agencies that serve schoolchildren and their families must seek out opportunities to cooperate in the production of space and the provision of services. Union rules that constrain the range of design choices without improving the quality of instructional space, or the services provided to children, must be reevaluated. Possibilities for contracting with private developers to include school space in their projects must be investigated. Teachers, parents, and principals must play a large role in defining the schools they want to serve their children and their neighborhoods.

Most of all, building small schools will require the willingness, from the highest levels of responsibility on down, to encourage and allow decisions to be made on judgments of quality, feasibility, and appropriateness rather than adherence to preconceived formulas. A small schools strategy that identifies and takes advantage of the variety of opportunities offered by the city's fabric demands the vision, openness, and skills to evaluate each case on its own merits. The reward for doing so could be a new generation of school buildings that reflect the diversity and particularity of the city's neighborhoods, and that communicate and support the very virtues of individual identity and identification with the community that make small schools themselves so important.

Rosalie Genevro is executive director of The Architectural League of New York

NOTES

1 Talbot F. Hamlin, "Schools Are For Children," *Pencil Points* (March 1939): 131 and 140.

2 On the Morrisania site, architects had the choice of using only the area bounded by Clinton, Franklin, and Jefferson Streets, or of using a vacant parcel across Clinton Street as well.

3 Harlem Urban Development Corporation, *Bradhurst Revitalization Planning Document*, n.d., particularly pp. 63–71 and Appendix 12.

4 Department of City Planning, New York City, *The Newest New Yorkers: An Analysis of Immigration into New York City During the 1980s* (New York: Department of City Planning, 1992), pp. 69, 72, 158, Chapter 4.

5 The Office of Strategic Planning, Division of School Facilities, New York City Board of Education, estimates the current need (not including projected population growth) for new elementary and middle school seats in District 6 at 4,105. Phone interview with David Schechter, 28 October 1992.

6 *Planning American School Buildings: Report of the American Association of School Administrators School-Building Commission*, 1960, p. 84. The Commission also wrote (p. 83): "Architectural competitions, like utopian speculation, provide opportunities for imaginative and creative thought. In both, the widest possible margin is allowed for unusual proposals and creative expression. Architects are given a chance to present the best overall solutions and are limited only by their personal capabilities and the most basic restrictions. The vitality generated through these free, untrammeled experiences clarifies objectives and usually opens doors to vistas not formerly seen. . . . Ideal situations, even though they are but hypothetical, become first battlegrounds on which ideas are tempered with conflicting opinions. Innovations and proposed changes can be meticulously studied and evaluated without the cost of premature action . . . ."

7 This call for flexibility and creative use of the existing city is not new—nor has such an approach yet been tested to see what it might produce. In an analysis written in the early 1970s, Anthony Vidler and Joseph Caruso discussed the powerful effect of the Board of Education's standards and procedures on school design: "Perhaps the major, most pervasive determinant of the school environment—and the least susceptible to analysis and change—is the administrative process of decision-making, design formulation and construction specification and bidding, that process which attempts to reconcile the interests of users, sponsors, administrators, political forces, fiscal managers and the like—interests that, far more than those of the individual architect, control the final form of the building." They go on to argue that the Board's procedures—because they focus on standardized solutions, grow by accretion, and are not systematically evaluated and rationalized—inhibit use of the real possibilities offered by the existing city.

They recognize and emphasize that an approach that takes advantage of the city requires informed and thoughtful planning: "Thus it cannot be emphasized too strongly that each found environment must be evaluated according to its own particular spatial qualities, and a judgment made of the minimum alterations required to make a viable school environment. In this way, the institutional "sameness" of the school building might be countered, and a real use made of the diversity and choice presented by the existing building stock of the city." Anthony Vidler and Joseph Caruso, *Spaces for Learning: Environmental Quality and the Educational Program* (A Report to the New York State Commission on the Quality, Cost and Financing of Elementary and Secondary Education, vol. 64), n.d., pp. 10, 66.

James P. Meier makes a similar point in his 1975 study of renovation and adaptation as approaches to school building: "The essential point in careful planning is that each situation be treated separately. As a generic form, while inherently neither superior nor inferior to new school buildings, it is clear that found space offers an alternative for permanent, on-going educational programs and at least as well as new school buildings, serves program revitalization, innovation, and educational program reassessment far beyond its immediate objectives of fulfilling space needs." Meier goes on to note the advantages of using found space for schools—time- and money savings, the flexibility of adjusting more quickly to inaccurate enrollment predictions—and most significant, the value of this approach to the city at large: "Even stronger, though more intangible, is the value of found space as a force for neighborhood preservation and revitalization." "The Conversion of Found Space for Educational Use," Ph.D. Diss., Teachers College, Columbia University, 1975, pp. 3, 33.

MORRISANIA

SITE

The Morrisania site, in the South Bronx, is comprised of fifteen vacant city-owned lots. The lots with frontage on Clinton Avenue slope up irregularly as they stretch back from the street. The two lots fronting on Franklin Avenue are at a higher elevation than the Clinton Avenue lots. The site, two blocks south of Crotona Park, is in a residential neighborhood, with some occupied housing, many vacant, rubble-strewn lots, and abandoned buildings beginning to be rehabilitated. Directly across Clinton Avenue are several city-owned vacant lots, which architects could propose to use as open space or play space for the study site.

TASK

DESIGN A KINDERGARTEN THROUGH TWELFTH GRADE SCHOOL, WITH DAY-CARE, HEALTH, AND OTHER COMMUNITY FACILITIES, FOR A VACANT SITE SOUTH OF CROTONA PARK.

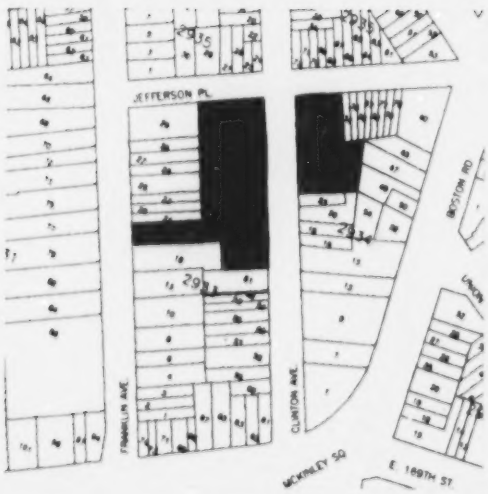
ARCHITECTURAL PROGRAM

Architects were asked to design an educational complex of three new small schools—elementary, middle, and high—serving children from kindergarten through the twelfth grade. In addition, they were to provide spaces for infant and day care, a health clinic, offices for representatives of social service agencies, and facilities to be shared by the school and the community such as an auditorium and meeting rooms. The program for the new school reflects the community's multiplicity of needs for adult education, parenting guidance, children's creativity and recreation, and health services.

A particular challenge of the project was to facilitate casual interaction among children at different age levels while also creating strong identities for each of the schools. Architects were also asked to reinterpret support spaces such as dining rooms, kitchens, bathrooms, and recreation spaces to minimize the building's institutional character. Spaces such as auditorium, meeting rooms, gymnasium, and some classroom areas were to be designed for community access.

Marrisania, The Bronx

Site locator



Site plan

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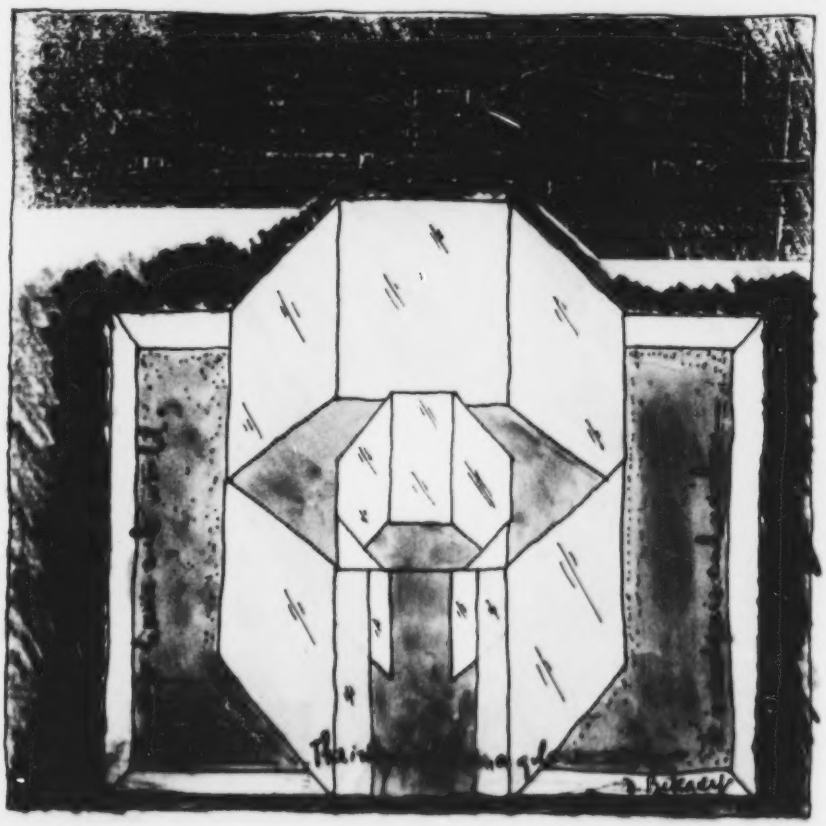
Design Intent

The school is an anchor and a hallmark in the community. The school is an announcement to the larger world of who the neighborhood people are, what they are doing, and where they are going. Conversely, the school provides a forum for events of the city and world to enter the community. The school relates and responds to the neighborhood in a fundamental language—light, noise, activity, focus.

Each function, play, school, and community activity, will occupy a discrete space and maintain its own character defined by users. The functions are united and the whole supported through clearly visible physical relationships. Circulation halls and stairs are meeting grounds binding participants and spaces together.

The school emphasizes qualities which foster learning and adventurousness—light, air, variety, surprise. Rooms converge on halls which are multi-directional, extending upward. Views change, expanding and contracting, now to an interior, now to an exterior. The sky and the cityscape enter the classroom. Halls become informal classrooms or just places for social events. Access to exterior space provides alternative classroom space—an escape for the mind and eye.

The individual is supported through private areas for reading, contemplation, and quiet conversation. Relationships among individuals are reflected in shared spaces and visual access. Eliminating an impersonal hierarchy, the school introduces a sense of community direction and control. Buildings are joined, entrances are common and shared by teachers, students, parents, and neighbors alike. Offices, classrooms, meeting rooms, and play yards are mixed together. Here it is the individual who fashions and manipulates the whole.



Parti sketch: perspective and axonometric

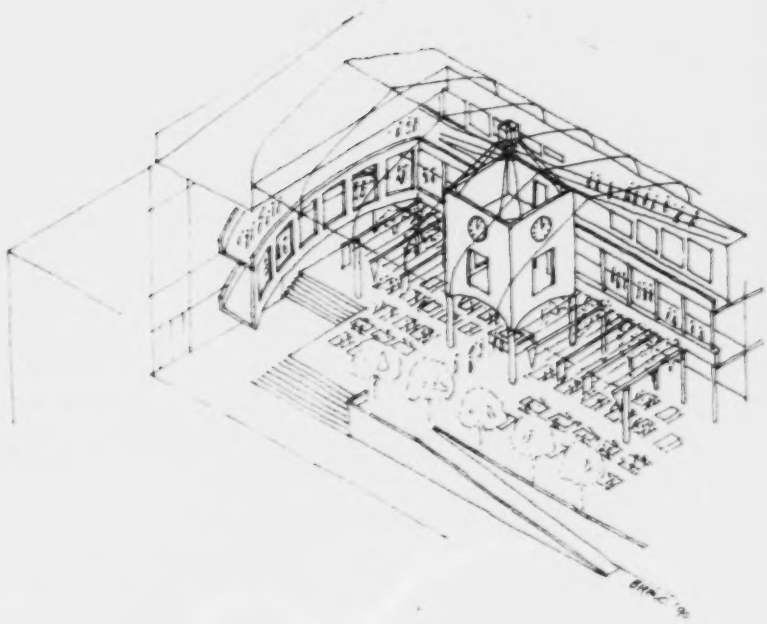
Schools as a Mall

Small, warmly furnished buildings scattered among trees and lawns are an inspired school setting, one rarely found in the midst of cities.

For seemingly practical reasons schools have become more sterile and more impersonal. Larger buildings made of standard elements and controlled systems designed for ease of maintenance will probably continue to prevail. An exploration of the large buildings that elicit positive responses from young people led to the "School Mall."

Focusing on an inward-looking space, the structure is a "diorama" in which continuing events occur. This "box" contains three small schools with all the required facilities. Students grow. Their environment is re-formed to conform with their changing interests. The classroom "shop," also a "box," is white-washed so each class may define itself, making the learning space more intimate, significant, exciting, and valued. When the school year is over, the rooms are white-washed again.

Each "shop" creates its own advertising. Banners and signs are fitted to the atrium wall. The open atrium can be used for theater performances, sports events, concerts, sculpture, art exhibits, day dreaming, or people watching. The ramped "streets" encourage congenial between-class time which is both relaxed and yet supervisable. The cafeteria or "food court" provides tables and benches among interior planting. These are under the skylights which may be opened in favorable weather. The plants and trees, volume and abundance of natural light and air soften the impact of easily maintained standard finishes.



Axonometric

Basil H.M. Carter
Susan Ecker
Stefan Eapen
Brian Kaminski

Since the school world is within the structure, it is secure. School life can be full flowing, open, friendly, and creative. Interaction with the community is natural as the spaces are adaptable. The adjacent day-care center will be well used.

The ambiance, in the fullest sense, is successively created and recreated.

The school is designed as a paradigm for the revitalization of the neighborhood: it proposes an urban model while addressing the concern for security in an area of abandoned buildings and vacant lots. The school presents a massive street facade punctuated by a tall tower, which together befit a critical civic institution around which the fragmented community can rally.

The imposing walls shelter the intimately scaled inner areas. A plaza, an arcade, gardens, streets, grand staircases and towers echo the structures of urban and communal models such as hill towns and campuses. The high school and middle school are organized like town houses with single entrances and stairs leading to a few classrooms in order to promote its occupants' sense of ownership, pride, and responsibility. Entries to other functions are located off the plaza, arcade, and street as they would be in a town or campus.

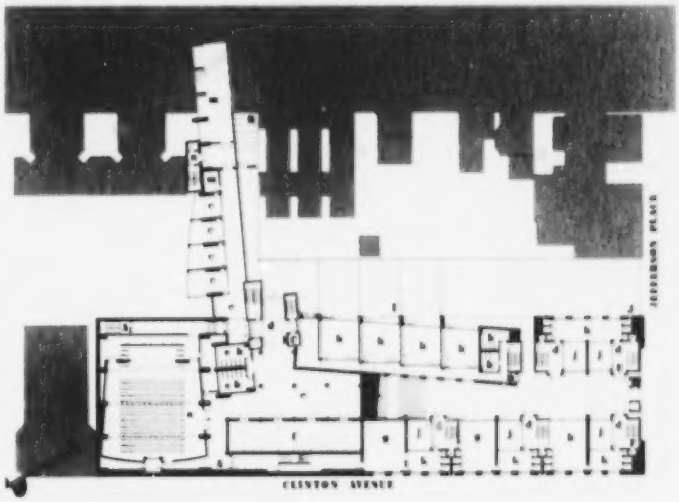
Michael Dodson of Moore Chapman Dodson, Inc. With William Chapman Assisted by Margaret Chapman, Peter Moore, Susan Morris, Karen Orloff

Beyond the gate house, security for the school's population is provided on an equally decentralized basis: teachers, receptionists, librarians, and students would all play roles in monitoring specific areas in the manner of neighborhood watches. For instance, the teachers' offices in the high and middle schools have direct views of the town house entrances. Tall walls, high windows, and gates secure the campus. The public would have access to the shared facilities only through the ground floor of the administration tower.

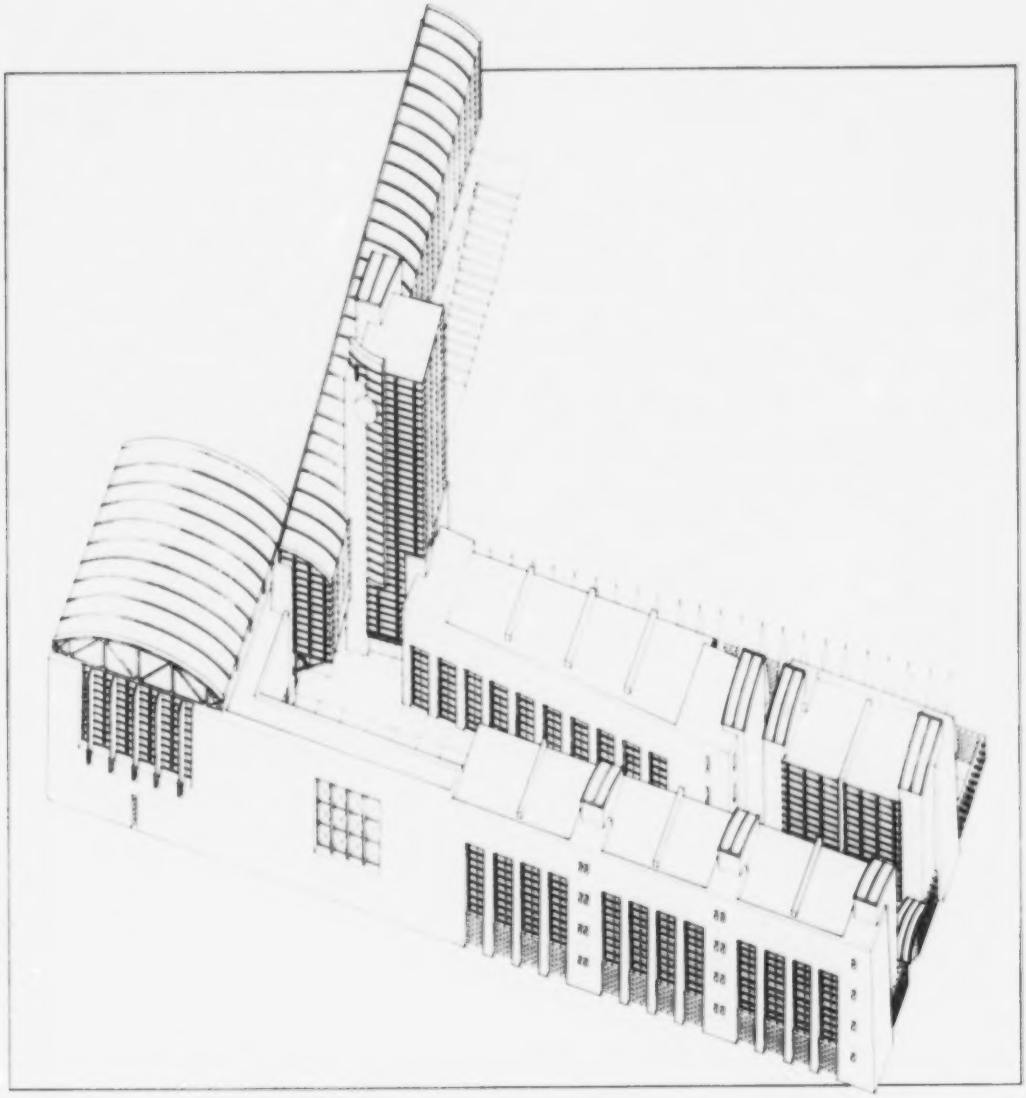
The tower contains the three principals' and general offices, reception areas, bathrooms, and circulation and is capped by the student council room. The ground floor entrance leads to the auditorium, social work offices, community meeting rooms, dining hall, library, gymnasium, and elementary school. The attenuation of the horizontal proportions of the library and dining hall mimic the vertical proportions of the tower and give these spaces a monumentality belied by their relatively small size.

The four principal methods and materials are roman brick facing, steel and glass curtain walls, rough-hewn brownstone masonry, and copper standing-seam roofing. The limited palette of materials used in a variety of combinations yields diversity while also emphasizing the cohesion of the disparate buildings.

The simple massing of the brick walls and towers evokes ancient and medieval buildings, bridges and engineered structures, metaphors that connote the importance of schools as lasting humanistic institutions. The glass and steel elements, in contrast, suggest the optimum use of modern technology and symbolize the aspirations of reformers who see science as the country's hope for the future.



First floor plan



Axonometric

Bharat M. Gami
With Asmita Gami

The Bronx project is an attempt at developing a new vision. This vision grows out of an investigation of past and present realities. The past realities recall images of the old village charm of Morrisania extending into the low-rise residential community of the early twentieth century. The present realities characterize both an area undergoing well-intended but piecemeal initiatives, as well as an area afflicted with typical inner city problems. An holistic vision for the future is offered here, one which addresses quality of life issues for children as well as adults.

More specifically, the vision suggests that redevelopment efforts should be concentrated in the historic urban corridor along Boston Road, which links Third Avenue in the south to Crotona Park in the north. Such redevelopment would create a pleasant and hospitable urban environment through a combination of residential, commercial, civic, recreational, and educational buildings. The schools for the area would be small, caring places for education as well as social and community services.

The school architecture would address the need for integration as well as autonomy and would be prototypical. The residential architecture would redefine the urban form and create a spatial order to facilitate various levels of community interaction. Both children and adults would formulate their future in homes, schools, and on the streets and plazas of a revitalized Morrisania.

First, second, and third floor plans and axonometric view

John Keenen
Terence Riley
Andreas von Rudzinski
Seung Jae Lee
Jim Yohe

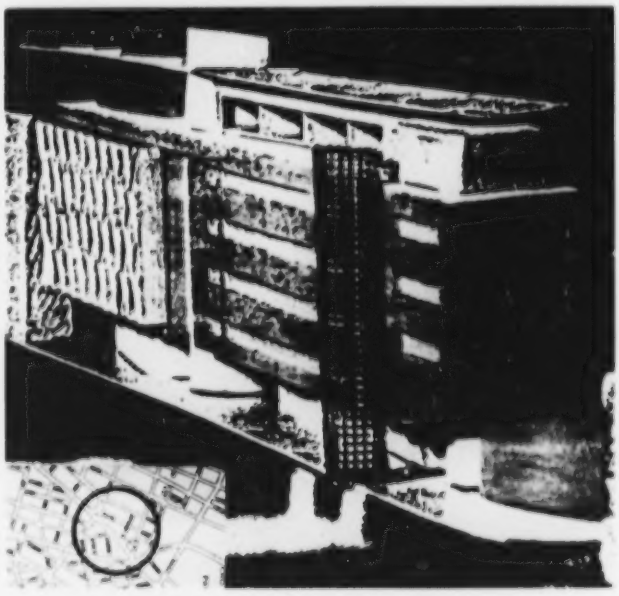
The idea of community is critical to our proposal for a new school for Morrisania. In dealing with the complex program for making three schools, we chose to make one unified building to house all three. In doing this we saw the potential for a school which would function not just as a school but also as a center which deals with social and cultural concerns of the community.

Standing on the edge of Clinton Avenue, the building takes on a linear form. This "bar" serves to mediate between two different worlds: the street world of the Bronx and the world of the school as created by the series of enclosed public spaces and courtyards found within the inner block.

The main entrance to the school is located on Clinton Avenue and is marked by a large cylinder which functions as the circulation core. From this entrance one moves to the individual schools and community related services. To the left on the ground level are the day-care/toddler centers and the health care facilities. These can also be entered through their own separate courtyard from Franklin Avenue. Above these spaces is located the elementary school. Through the entrance to the right one finds the dining hall, gymnasium, and administrative offices. Above is located the middle school (floors two and three) and the high school (floors four and five). Located at the back of the bar, creating an inner sanctuary for those using the school, are the larger and more public spaces: the day-care/toddler center, dining hall, gymnasium and auditorium. These spaces are organized around three outdoor courtyards, one on ground level opposite the entry, one atop the day-care/toddler center for the elementary school and one above the gymnasium.

Both the ground level and the top floor or "sky deck" hold the common spaces shared by all three schools. The ground level is articulated as a continuous base which supports the floors of the bar above. The sky deck holds both an outside gymnasium for the grammar school and a common library for all students. The auditorium is located on the corner of Clinton Avenue and Jefferson Place and has both an internal entrance for the students and a street entrance for the community.

Classrooms vary from school to school, with classrooms being more open or loft-like in the elementary school and getting more defined as "rooms" in the upper grades as subject matter gets more specific. All of the classrooms are served by single-loaded corridors which flip from the front to the back of the bar, using the central circulation core as a pivoting point. In plan the corridors widen as they approach the central circulation and are articulated by the diamond-gridded window wall. They are seen as extensions of the classroom—the "public street" of the school—rather than just circulation.



Perspective and site plan

The proposed edifices for learning constitute the foundation of a successful educational program under the "School House" and the "School as Community Site" concept. With a focus on an interdisciplinary learning environment, they bring together the children and the adults of the Morrisania community in preparation for the requirements of the twenty-first century.

The challenge posed by the design team evolved around three major factors:

1. The sites dictated the type of structure for learning; it would relate to residents' needs and have resources interchangeable with needs of community activities.

2. The program uses define the specific direction for the architecture. Space and its functional relationships identify the architectural plan from the day-care center to the "school house" to the "community center" site.

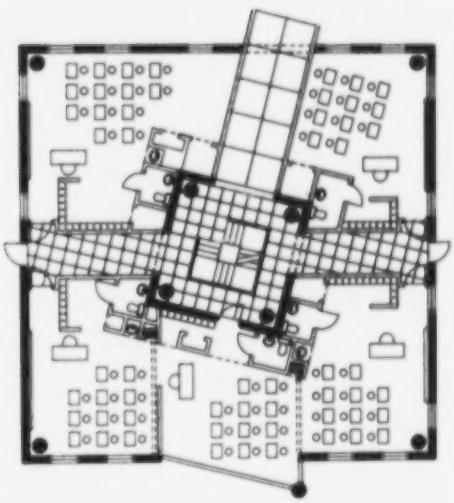
3. The Morrisania community desires a well-rounded, quality education for its children and adults, including at-risk youth. The proposed sequence of spaces maintains a philosophy of the value of small, intimate learning environments for the learner to become acquainted and familiar with individual teachers. Provision is made for exploration and expansion into the provided spaces with extra-curricular and interdisciplinary learning experiences.

Architects
Lucio Di Leo, AIA
Gerson Palevski, AIA
Designers
Nicola Arpaia
Lazaro Arce, Jr.
Emmanuel Gramigna
Galina Kanevsky
Carl Sacci
Ralph Tedesco
Assistants
Michael Boback
Dennis DeFrancesco

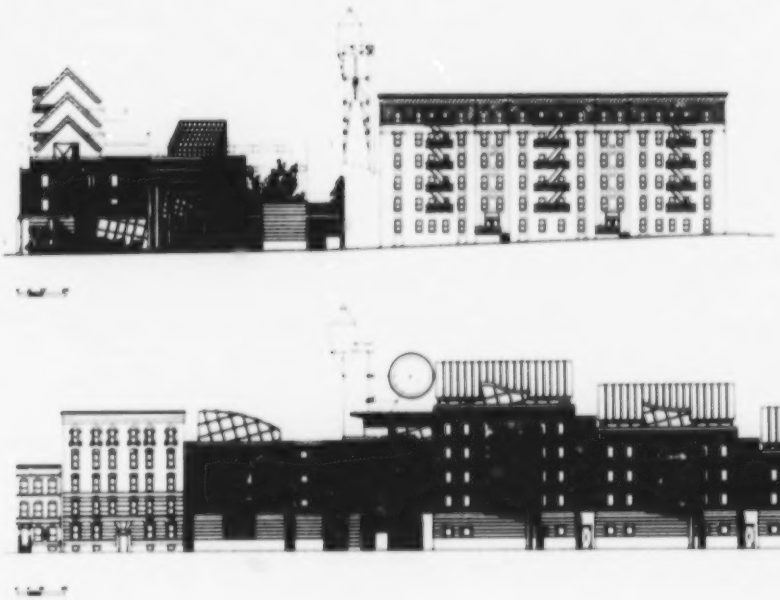
The layout and geometry of the school structure and design solutions reinforce security by creating a controlled "inner city" environment. The library is a focal point placed so as to respond to student and community needs. The cafeteria expands into the courtyard as an interaction space during school hours and for community needs during after-school hours. The amphitheater creates additional public space for community events and acts as a conduit for the introduction of community events and activities into the school environment. A residence is provided in response to housing needs, and to make available necessary youth shelter when appropriate. The penthouse areas provide additional space for exercise and sports activities for both students and community.

The function of the school is further strengthened by the identification of space for core instruction for students of different ages and levels of development. At the same time interdisciplinary activities are encouraged so as to enrich the core curriculum and broaden learner comprehension.

In conclusion, there is a recognized need for the Morrisania community, the City of New York, business and industry, and educational resources to form a band for daily use and maintenance of the edifices which support and monitor the progress of all children.



Plan of circulation core and classrooms in elementary schoolhouse

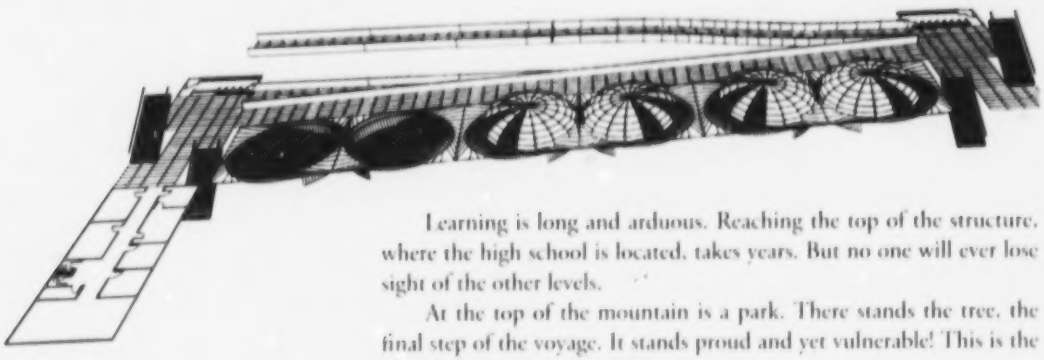


Jefferson Place and Clinton Avenue elevations

A new mountain is standing in the City!

It is not a shrine erected to the grandeur of knowledge, but rather the celebration of learning. From the lower levels (day-care center, Primary School) to the top floors of the High School, is a long journey.

No more Institutional Learning Facilities! No more classrooms! Teachers cannot be content anymore as petty functionaries, guardians of the petit bourgeois Order! They now face their pupils in small amphitheaters carved into each of the slopping floors. The obsolete classroom became a learning nest! Intimate, and yet open to the rest of the volume, the rest of the teaching mountain. Teachers and pupils are not secluded behind awkward walls anymore, they actually participate in the entirety of the School. They are individuals, aware at all times of the rest of the community. Each amphitheater/nest is complete, with storage and sink area located under each floor.



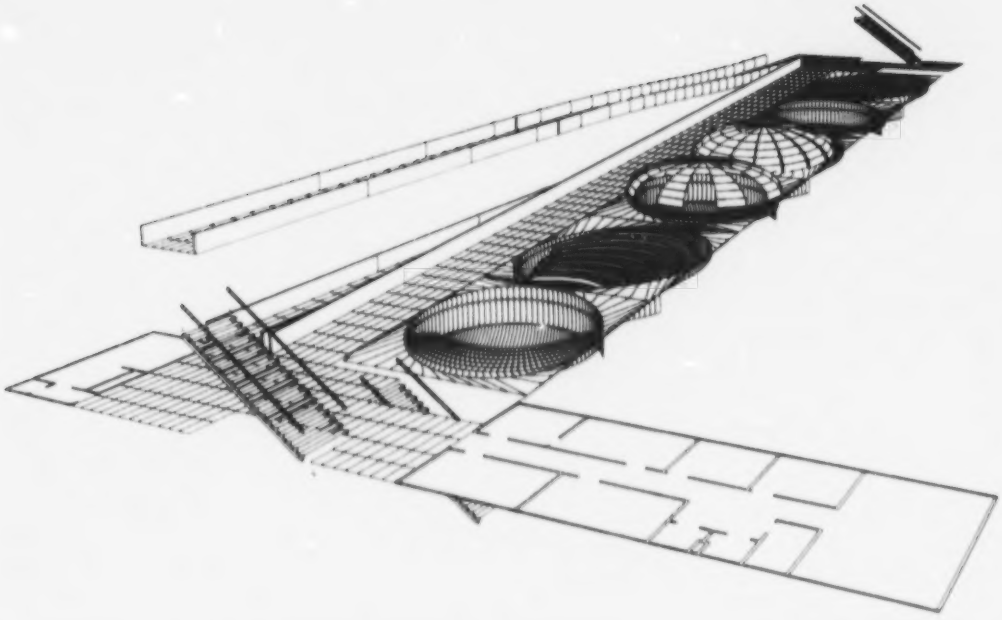
Learning is long and arduous. Reaching the top of the structure, where the high school is located, takes years. But no one will ever lose sight of the other levels.

At the top of the mountain is a park. There stands the tree, the final step of the voyage. It stands proud and yet vulnerable! This is the ultimate lesson!

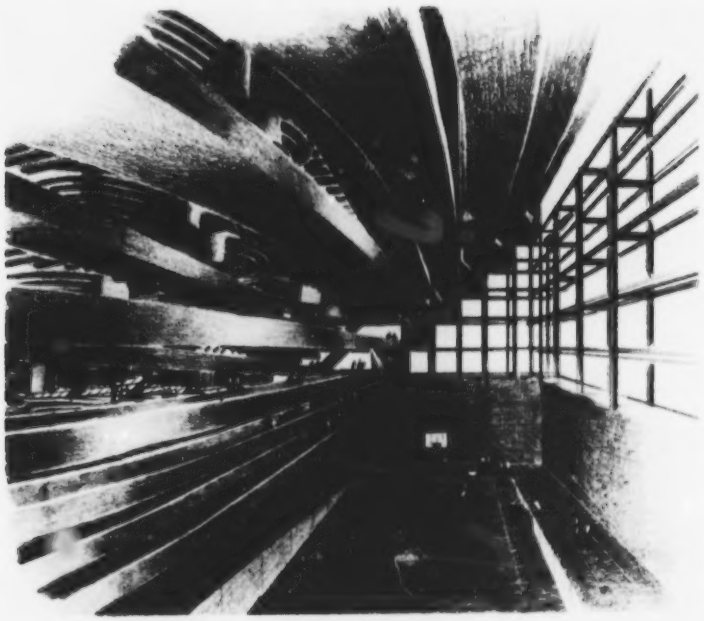
"HOLD HOLY YOUR HIGHEST HOPES!"

Against all adversaries, all misfortunes, the young crowd must stand tall and proud! What can be the need for an institution turning out well adjusted citizens!

This School is there to guide noble and strong children, to develop their social awareness as well as their individual consciousness!



View of learning amphitheaters



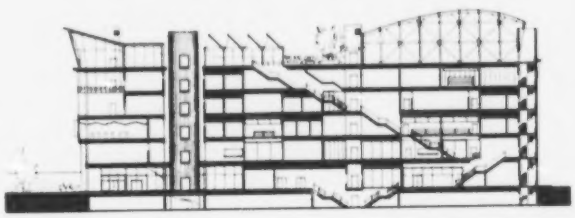
Sketch of interior, gymnasium

CAMERON MCNALL WITH HMFH ARCHITECTS

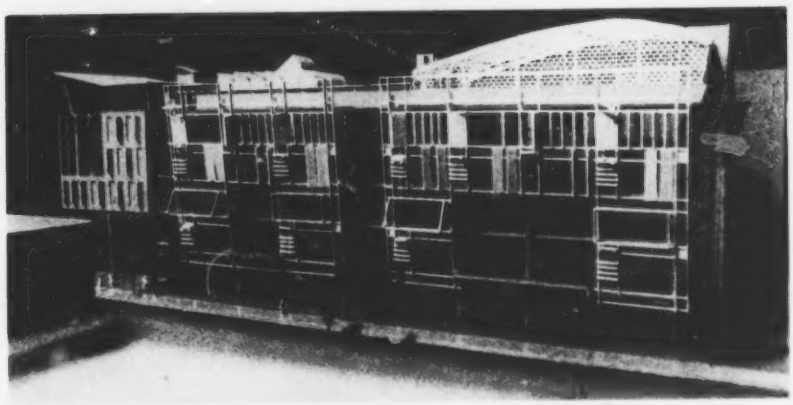
This project celebrates the virtues of small schools in an urban setting. The main building, which houses both the middle and upper schools, faces Clinton Avenue while the lower school is located in the narrow "panhandle" which connects to Franklin Street. Across Clinton Avenue the day-care and kindergarten facilities are housed in playful structures located in a park-like setting of trees and grass. Each of the main building's three components has its own entrance, its own arrival point and its own unique path of vertical travel through the instructional floors and up to the shared facilities on the upper level and roof. Yet each component clearly belongs to a larger totality not unlike the relationship of the neighborhood to the city.

This project also maximizes certain features which urban schools frequently lack—abundant natural light and outdoor play space—and promotes community access and identification. The main building is organized around a four-story atrium space which is, in effect, a single-loaded corridor which is flooded with dappled light by day and which emanates light by night. This school is not a fortress; it is the jewel of its neighborhood. Its glass facade is protected by decorative screens and meshes.

Cameron McNall
With HMFH Architects
Callie Traynor
Erich Wefing
Jennifer Pearson
Stephen Friedlaender



Longitudinal section



Front elevation

At ground level the building features an arcade dominated by a two-story community mural wall, behind which are the facilities the school shares with the community. Designed by artists working with local groups to promote and affirm community sentiment, the wall should become a living testimonial to the aspirations unique to this community. It is an on-going record of community names, images and events.

Our project attempts to adapt a traditional model—the C, E, or H New York City school plan—by inverting the interior/exterior relationship. The bars of the classroom that would overlook outdoor areas are now placed along the street edge, wrapping around a central, skylit galleria, as a way of fostering community among the different schools.

The ground floor of the building incorporates those aspects of the school with the strongest ties to the outside community. One lobby serves the community-based organizations, as well as a grouping of day-care/toddler centers with health-care facilities and cafeteria, while a second lobby serves the gym and auditorium.

Both lobbies have access to the second floor from which the three schools are entered. Administration and shared classrooms occupy this floor, with additional classrooms on the floors above. The two lower schools are each arranged around a skylit atrium containing a ceremonial stairway. Thus the ground and second floors of the building contain the more public and shared functions, while the three schools are arranged as separate volumes in order to establish individual identity. Visibility and circulation—walkways, bridges, and open spaces—are the focal point of the design as they form an important part of the school experience.

The library acts as a separate building fronting on Franklin Avenue at the scale of the surrounding houses. It has an entrance from the street as well as from the school. Outdoor play areas are provided across Clinton Street as well as on the roofs of the two gyms and the library.

Perspective view of elementary school atrium

We believe in the dignity of schools and of the people and communities they serve. Our school will serve as the catalyst for the Morrisania community by:

1. Providing a pedestrian through-block passageway from Franklin Avenue that culminates in a community "common" on Clinton Avenue. This space will serve as the bridge between the neighborhood and nearby Crotona Park and encourage people living in nearby elderly housing to partake of the school's activities.

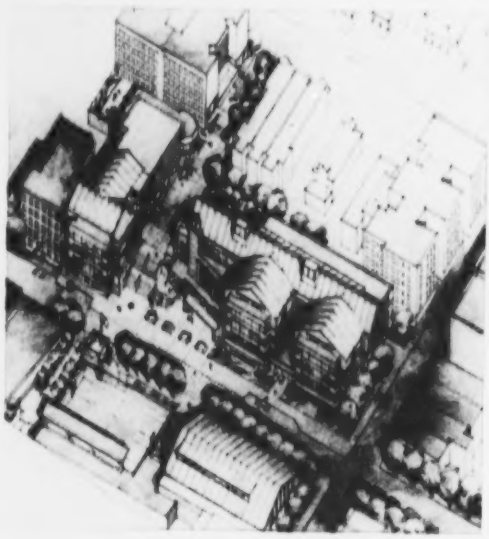
2. Organizing the school's elements as an ensemble of interrelated buildings and public spaces that will create an anchor for the neighborhood and encourage the formal and informal exchange of ideas, activities and social services between the school and its community.

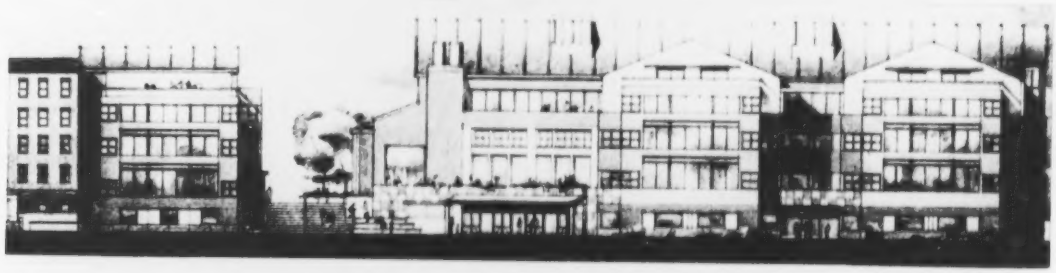
3. Expanding the program to include a field house and outdoor sports facilities on the southeast side of Clinton Avenue.

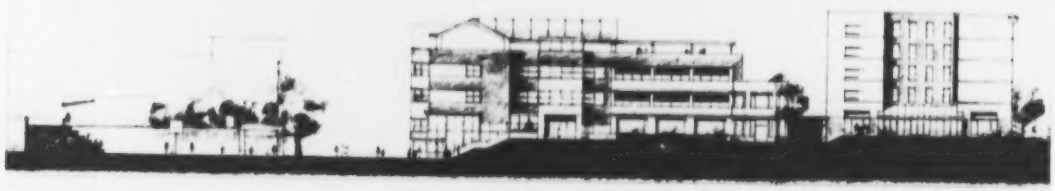
4. Recycling two adjacent and abandoned tenements for child care, dormitory and housing for the school and neighborhood.

5. Creating an imagery from light-colored, modern materials, gable roofs and balconies, and a landscape that responds to the particular mix of urbanism in the Bronx.

Strickland Carson Associates
With August G. Schaefer
Roy Strickland
August G. Schaefer
Carolyn Carson
Ed Tachibana
Darcy Rathjen
Julie Meininger
Linda Gatter







Aerial view (top), Clinton Avenue elevation (center), and section (bottom) through site looking at playground, elementary school, and dormitory

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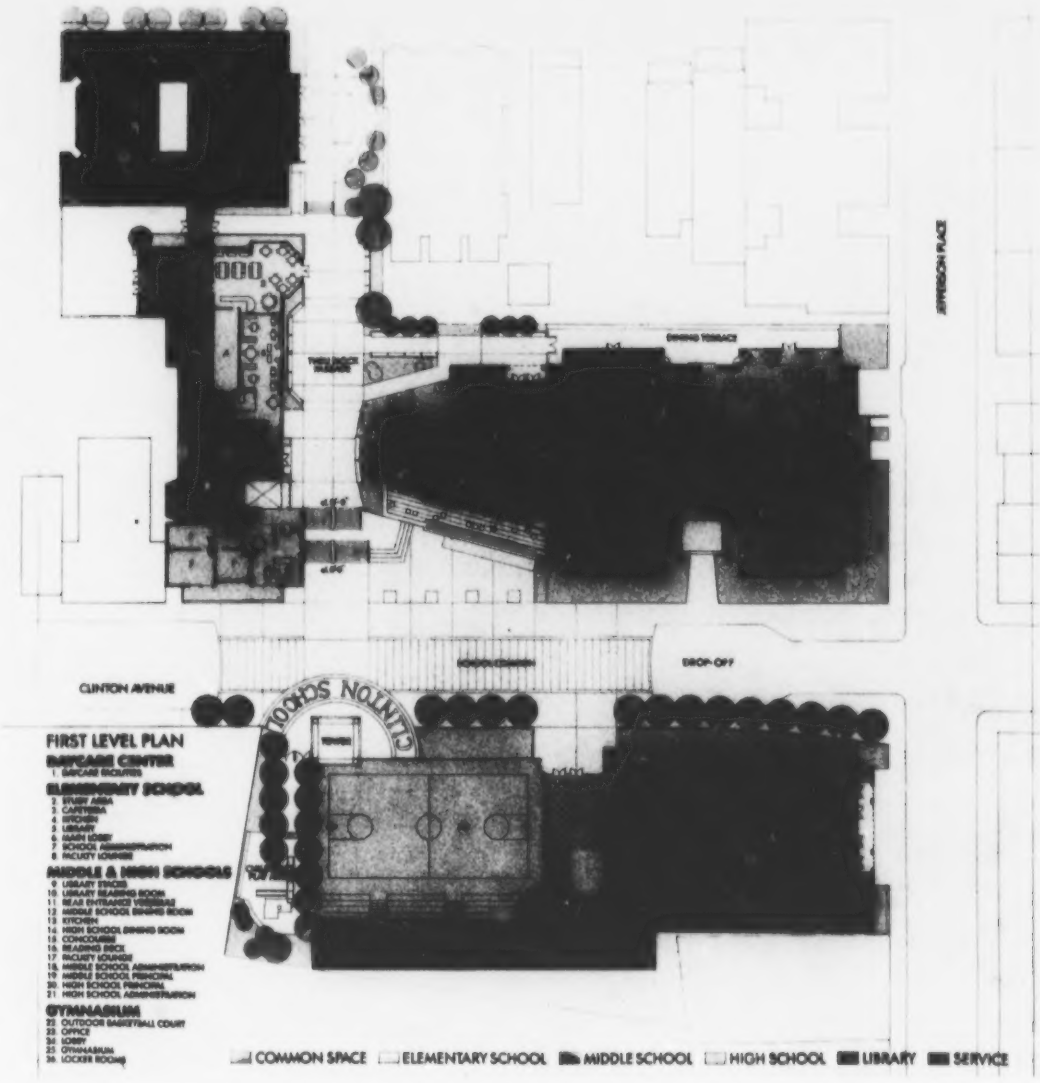
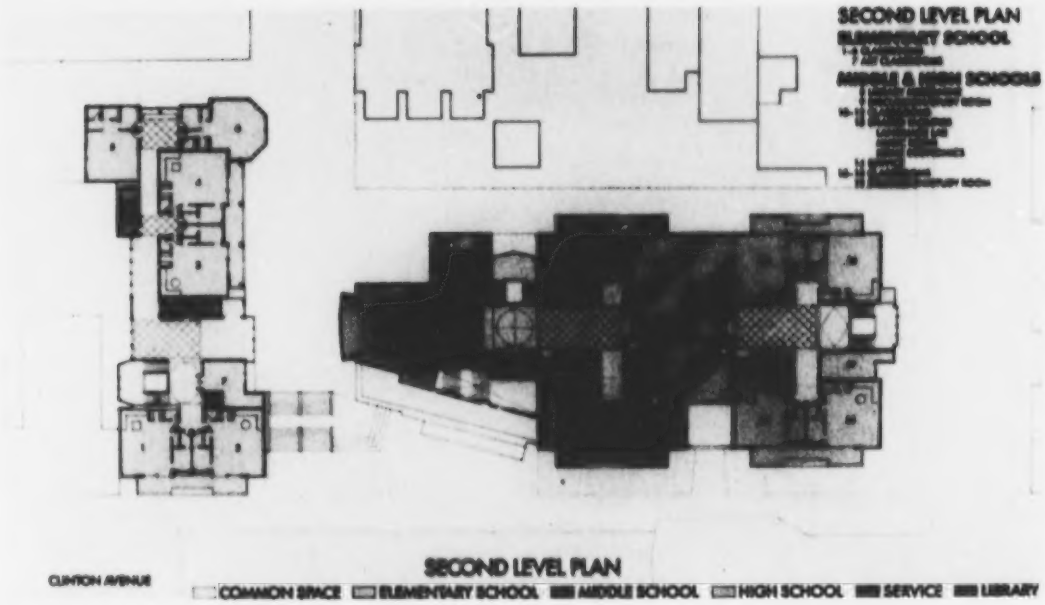
CLASSROOM SUITE AND COMMON SPACES

Classroom suite and common spaces

Organizing our concept of the schools are suites of classrooms with adjoining common spaces which are designed to foster intimacy between student and school. Classrooms are clustered in pairs to dispense with anonymous corridors. Each classroom is a self-sufficient learning environment. A computer/library corner, student work table, and window seat supplement movable furniture. Each classroom opens to an adjacent teacher's office to deepen the teacher's identification with the classroom and to reinforce tutorials as part of the educational process. A private lavatory for each classroom dispenses with vandal-prone common facilities. Terraces, a lounge, seminar/small dining room, and hall display cases and study tables complete the classroom suite.

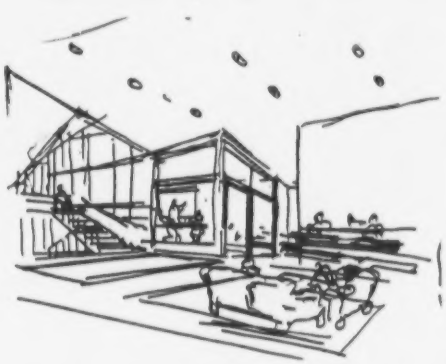


First level plan



Second level plan

Library: a two-story space that serves as a school and community feature with a fireplace around which people may read and study



Landing: with lounge, display area, and seminar/dining room serving as adjuncts to classrooms

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FLUSHING

FLUSHING

SITE

Downtown Flushing, in central Queens, has grown tremendously in recent years through commercial and residential development that has both resulted from and attracted a large number of Asian immigrants. More than 2,000 dwelling units were built within a four-mile radius of the intersection of Northern Boulevard and Main Street between 1988 and 1990. Flushing has an immediate need for more classroom space and a lack of parcels of publicly-held land available for new schools. In addition to its need for more space for schoolchildren, Flushing has a strong demand for meeting space for programs such as English-as-a-Second-Language and literacy classes.

The New Schools site in Flushing was a proposed eleven-story mixed-use building to be built by a private developer on the south side of Northern Boulevard just east of Main Street. The developer planned to include office floors and a movie theater in the building. Each floor of office space would comprise about 16,450 square feet.

TASK

DESIGN A SMALL MIDDLE SCHOOL WITHIN A PLANNED MID-RISE MIXED-USE BUILDING IN DOWNTOWN FLUSHING

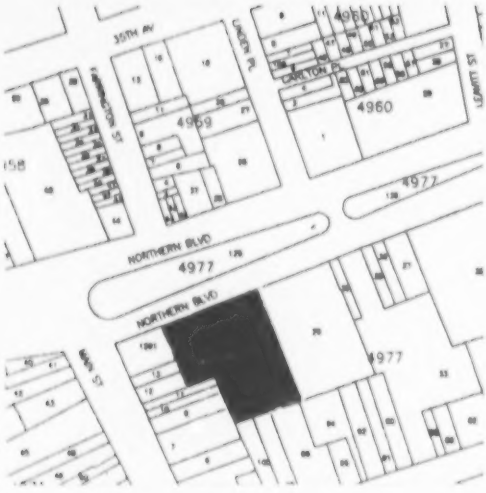
ARCHITECTURAL PROGRAM

Architects were asked to produce a design and a strategy for creating a school on one or several floors of a mixed-use commercial and retail building. The architectural challenge was to devise an approach which would result in a warm, welcoming, secure school environment which could be created quickly and modified easily as necessary. Ideally, the school would be integrated into the working and "outside" world. School children and working people in the building would be reminded constantly of the presence, interests, and characteristics of people of other ages.

Providing adequate play space for the school children and access to school spaces for use as meeting rooms and adult education classrooms during non-school hours were particularly important problems to be addressed.

View of downtown Flushing, Queens

Site locator



Site plan

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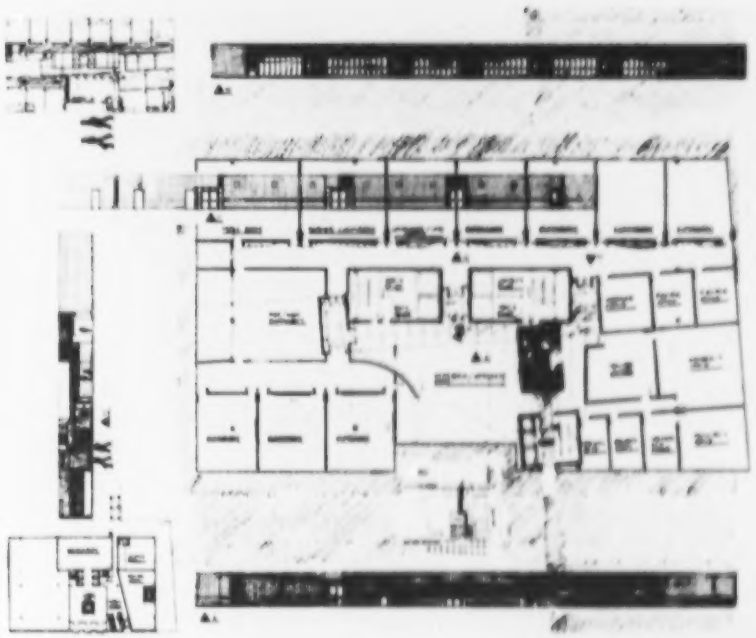


Plans and perspective

I have chosen the third floor of a multi-use building to house a small middle school for 200 students in grades 6, 7, and 8. I have chosen to design a totally independent zone within the building, one which slices the interior of the building vertically and horizontally.

The question became how to design the school which would have an "outside," knowing that one could not change the outside of the building. What if all the interior partitions were made to look like the outside of a building, the rooms were positioned in a way which provided a reference to an arcade that goes from one building to another or, rather, one room to another? It would begin to create an inverse notion of interior spaces: interior walls would become outside walls to other interior spaces. All the walls are to be 12-inch x 12-inch tile on waterproof sheetrock, a very fast method of construction.

Deborah Gans
Brian McGrath
Mark Robbins
Shauna Mosseri

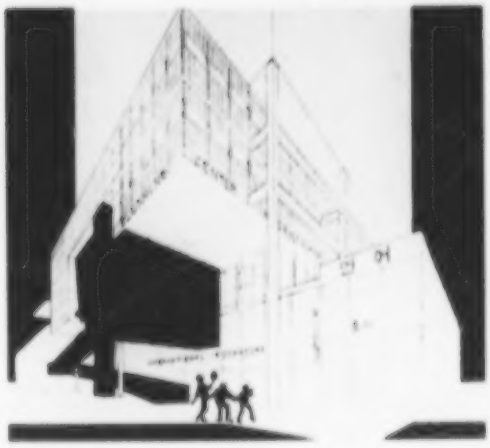
Flushing, New York—dating from the Colonial era—where the Quakers found refuge in 1694. In the shadow of LaGuardia and the Unisphere, it is the new port of entry in Queens. Today the immigrant community is Asian.

The Flushing Center School provides an entry into the culture: a public place for learning inserted within the private envelope of a speculative office building.

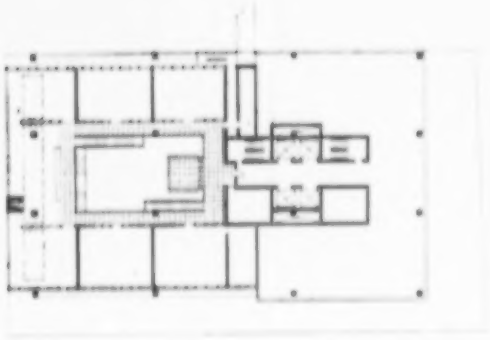
The facade of the school is made up of glass cubicles: language labs, used day and night—an English-as-a-Second-Language billboard.

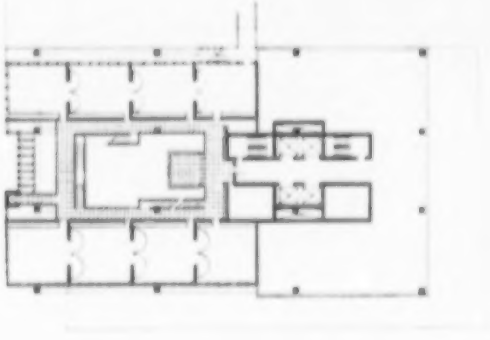
A ramp from the street leads up to the central courtyard, a vertical space within the horizontal world of the office landscape. The life of the school begins here. Daily activities are apparent, viewed through classroom walls.

The courtyard is anchored at one end by a tower of lockers—a series of stacked rooms composed of students' possessions in wire mesh boxes. It is a nexus for social activity as each period changes. Up the tower a sign strip flashes messages about the day. ASSEMBLY BEGINS: a visual public address system.



Perspective





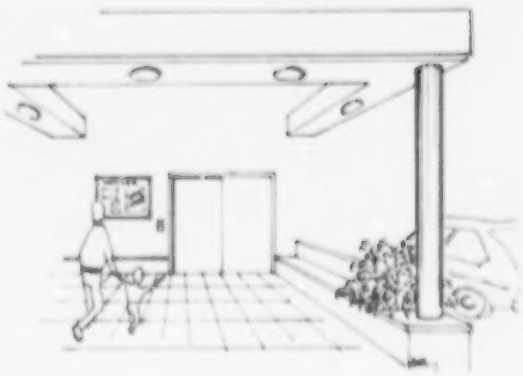
Plans at levels 42.50 (left) and 55.00 (right)

CONCEPT GOAL: The integration of school and community through a shared common space—"A Park in the Sky"—that serves as a learning center for all.

Integration begins inside with the placement of a middle school in a mixed-use building. This is enhanced by providing a common outdoor area at a roof top level.

Inside, the school occupies the entire fourth floor and a section of the third floor. The plan is simple. Classrooms flank both sides of the building, taking advantage of natural light. Larger specialty rooms are centrally located, with administrative offices dispersed among them. Adequate storage is provided with display areas outside the classrooms. The third floor is used for two specialty rooms and is closed off from the remainder of the floor. The school is accessed by a private elevator, located at a drop-off point in the parking garage.

As a reaction to the lack of and need for open outdoor space, "A Park in the Sky" was created. Housed on the top floor of the parking garage, the park is entered from an elevator which serves all

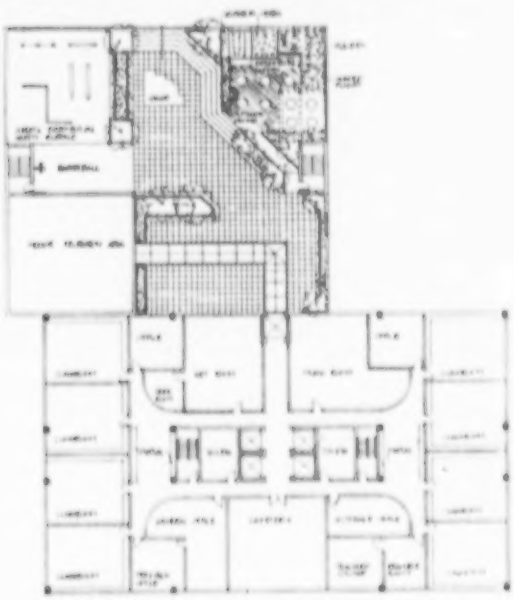


School entrance

floors and acts as the main entry for the school.

The park provides a playground, quiet spaces, an amphitheater, and a raised dining area surrounded by an experimental garden. An indoor recreation center shares the roof terrace and is accessed via a covered walkway beginning at the elevator. This room functions as a community room after school and on weekends.

In an attempt to provide creative alternatives for learning environments and innovative utilization of unclaimed space, the intention is that this model will serve as a prototype for schools.



Plan

HARLEM

HARLEM

SITE

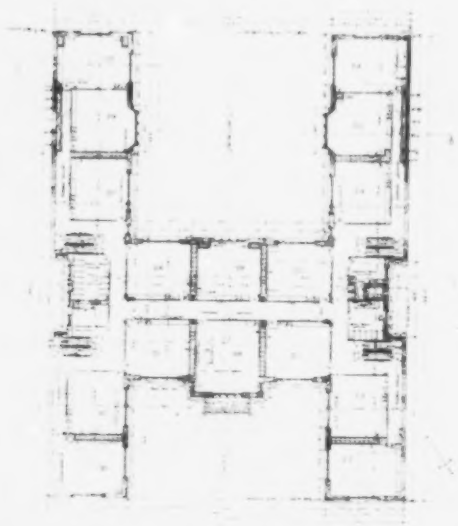
Public School 90, a vacant elementary school on West 148th Street in Harlem, was declared obsolete and abandoned by the Board of Education during the 1970s. Completed in 1906, P.S. 90 is a five-story, masonry bearing wall H-plan school similar to many others around the city built during the term of innovative Superintendent of School Buildings C.B.J. Snyder. The Bradhurst district of Harlem, in which the school is located, includes many vacant apartment buildings currently being renovated for housing for the homeless and for low-income families. The Harlem Urban Development Corporation and a number of community organizations and institutions have proposed the comprehensive Bradhurst Plan for this area as a way of addressing the economic, educational, and social needs of the existing population and the new residents who will move into the rehabilitated housing.

TASK

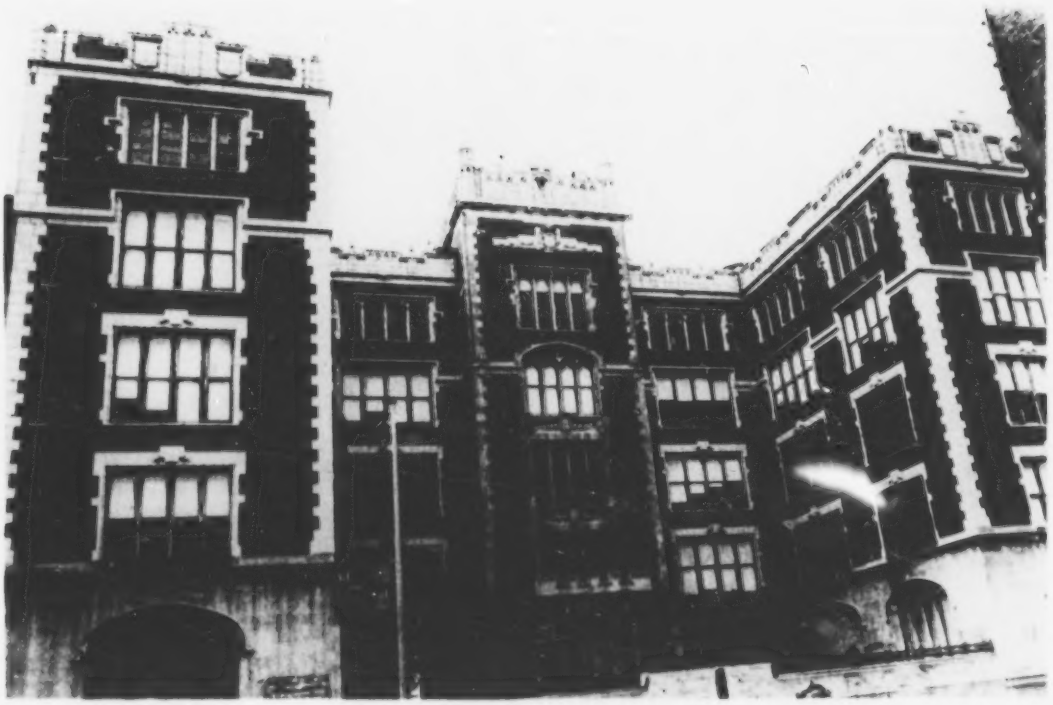
DESIGN AN ADAPTIVE REUSE OF ABANDONED P.S. 90 AS A MULTI-USE COMMUNITY CENTER.

ARCHITECTURAL PROGRAM

Architects were asked to propose how the existing structure of P.S. 90 could be renovated as a community center, including a small alternative high school for 250 students. Other uses to be included in the building were an auditorium/theater and gymnasium for community use, a branch library, an infant and toddler care center for 45 children, an early childhood center for 60 children, social services offices, a senior citizens' center, and a health clinic. Design issues of particular importance were how to create appropriate access, circulation, and security within the building. The proposed program envisioned almost round-the-clock use of the building by a variety of groups, all of which would benefit from sharing amenities and facilities.

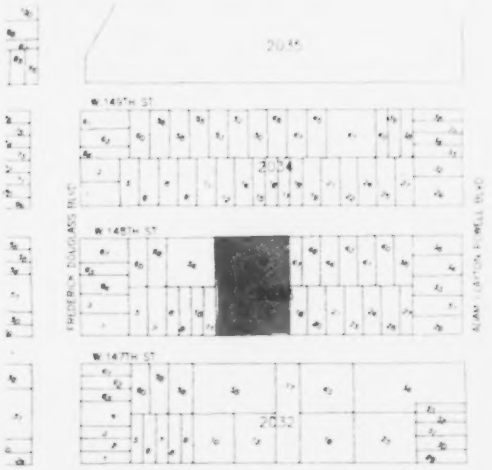


P.S. 90, original second floor plan



P.S. 90, Harlem, Manhattan

Site locator



Site plan

La Maison du Peuple

P.S. 90, now an abandoned public school, can emerge as the new sociocultural focus of the neighborhood, a place where both old and new residents can gain not only a needed alternative high school but also a *maison du peuple* (a "house of the people") where they can share cultural, recreational, educational, and social services.

The *maison du peuple* is organized around a central core, an interior plaza which has been carved out of the three lower levels—the basement, ground, and second floors. The plaza not only orients people in the building, to the high school activities to the west, the community services to the east, or the recreational activities below, but also leads them into the library, conceived as the major shared space of the complex. Temporary structures, to be located in the lobby area, provide people with access to amenities rarely found in such neighborhoods: books, stationery, crafts and gifts, newspapers, magazines, and snacks. All users of the complex from seniors to toddlers find spaces designed for them at the ground level.

The basement level, which is lit from above by skylights located in the building forecourt, is the entertainment level, containing the theater/auditorium, the video room and the cafe.

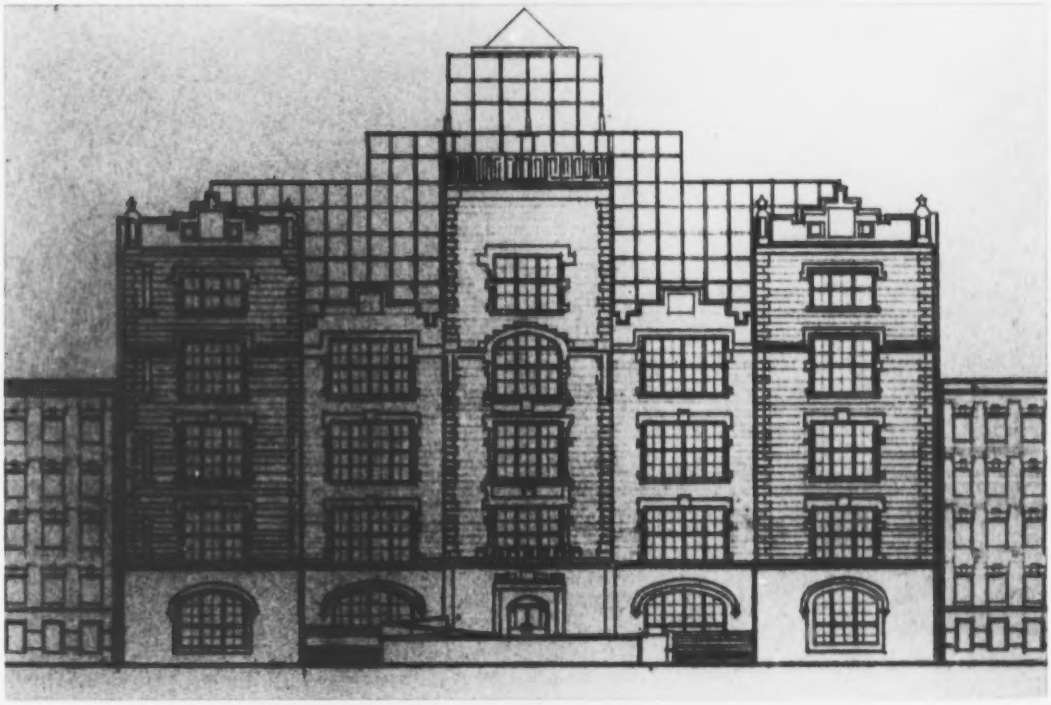
Yinka Sheriff Adesalu
Shui Ki Cheng
Martin Mueller
Atim Oton
Bienvenido Perez
Jose Ricardo
Raysa Santos Mauad
Kong Tse

The ground floor is a community plaza, accessible to all by the ramp system created from 148th Street. The library, an addition to the old building, is the major focus for all ground level activities. Circulation routes to the various program areas are clearly differentiated.

A mezzanine overlooking the central ground level plaza gives access to all the community services of the program.

The high school starts at the third floor and occupies the rest of the building. A new gymnasium has been created on the fifth floor, in the central space of the building; it is a dramatic architectural element which, together with the glazed library, make up the new addition to the old building. The gymnasium doubles as a Community Health Training Center and is accessible by the elevator that has been added to the *maison du peuple.*

City College Architectural Center
Director
Ghislaine Hermanuz
Associate Director
Anthony Crusor
Assistant Director
Daniel C. Dunham



Elevation

First floor plan

Watching architecture can be like watching television. The modern school and factory: education as assembly line, organized according to principles of authority. The post-industrial situation denies the need to train or educate and the task of the school becomes the transmittal of information. The textbook subverts the ____. The school of the future will be no more than a transmitter: the classroom will be replaced by the broadcasting booth. Buildings can act as fax machines and the xerox can be the space. There is no context, only a condition. The site is located at the intersection of a pale blue color, the sound of a siren and the flashing lights atop a car. The social program contained is more important than the description of its container. The difference between the large and small school is one of size. Harlem is a name and architecture can be a verb. Direct means of evacuation to the suburb is as critical as to the hospital. The new school demands the electromagnetic as the nineteenth century school required light and air: connection to the ground plane is no more than that to the utility line below or the helicopter above. The new school must serve the development of the physical. Bright white lights assure safety no less than long operating hours and community programs. The nearby traffic signals direct the movement of the city and become its order. Some materials possess physical qualities well suited for providing security, longevity and improved maintenance. Making a better school building is like making a better subway car. Building a new school on the site of an abandoned school indicates no more than archeological coincidence or bureaucratic insistence. Building upon an empty masonry shell allows the artificial exaggeration of the vertical dimension: the building in the city is inseparable from the history of real estate. In that the ramp registers a recognition of the handicapped, the escalator acknowledges the dexterity of the shopping mall.

Composite view

Perspective view

The exterior shell of the building, a fine example of the artistry and craftsmanship of the early 1900s, will be preserved. The original interior scheme of rooms connected by corridors, however, will be replaced. Instead, the crossbar of the H will represent not only the physical, but also the functional connecting space of the building. The first floor consists of the lobby and a greenhouse which link the early childhood and infant/toddler areas and open onto a private playground. On upper floors, the bar of the H is occupied by a two level library and media center, a student lounge, a parent/adult education room, and a multipurpose room. Stairs, elevators, and bathrooms will be grouped in service columns on both ends of the crossbar.

In the cellar concrete slabs will be installed to create a U-shaped mezzanine for the health and social service facilities. Excavation will be completed to provide space for the senior citizen center. The columns below the central hall on the first floor will be replaced with girders, beams, and new columns on the sides, leaving a large hollow core. With access from the school and from 147th Street, it can be used for community assemblies and as a separate theater and gymnasium.

Building access will be from both 147th and 148th streets. The main entrance to the school and a ground level entrance to the community facilities will face an open outdoor space between 148th and 149th streets. This open space intersects with another pedestrian thoroughfare created by joining the rear courtyards of neighboring buildings, and extends through the block to meet the open space in the Dunbar Apartment complex.

Design Concept

The very scope of the project demands the alteration of the existing school to accommodate the proposed educational/community center which will be much more than a recall of its past role. By encouraging public use of its facilities and establishing a distinctive architectural profile, the design will enhance and complement the proposed surrounding development.

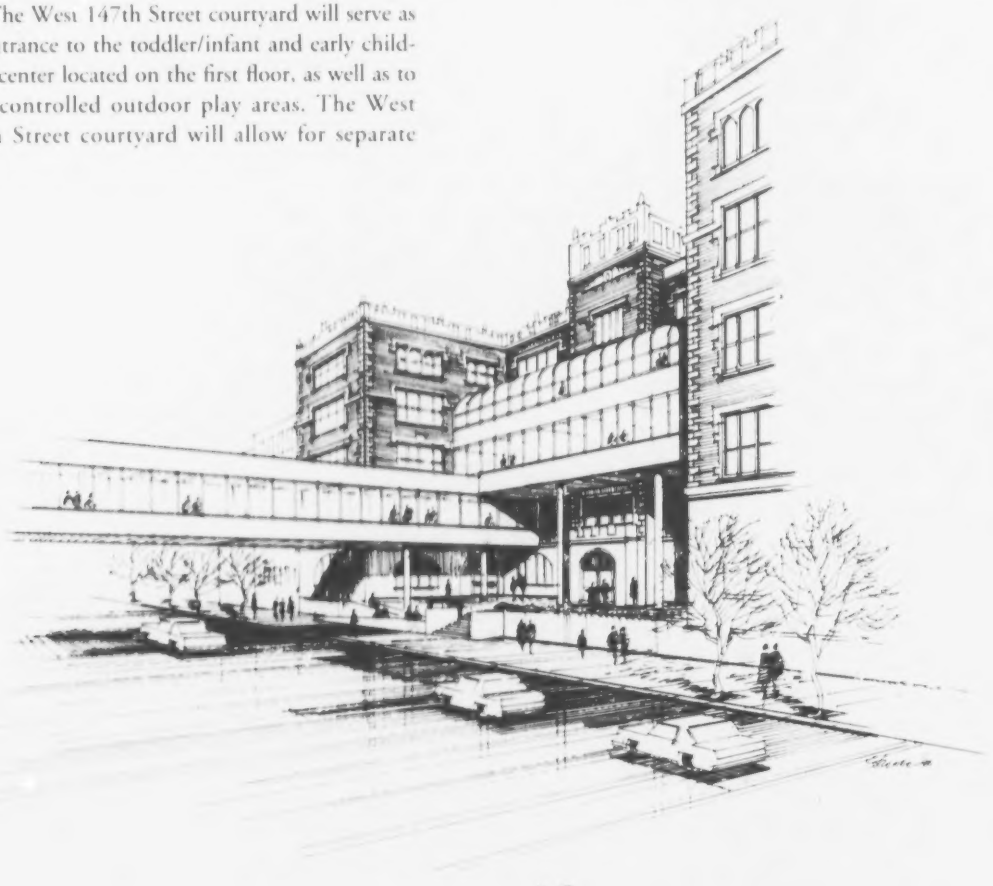
Building Design

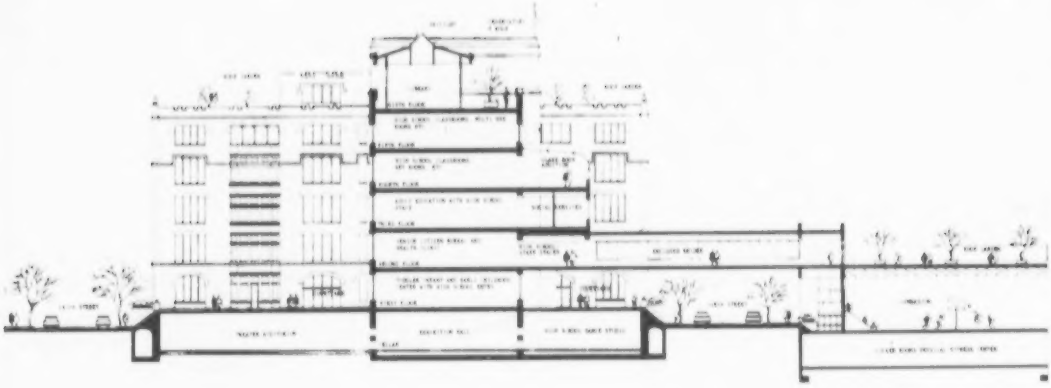
The design of the building conforms to all applicable building codes and zoning considerations; however, approval by the appropriate City agencies will be required for the new bridge/crosswalk linking the reconstructed existing building to the roof garden level of new facilities built on the now vacant lots.

The West 147th Street courtyard will serve as the entrance to the toddler/infant and early childhood center located on the first floor, as well as to their controlled outdoor play areas. The West 148th Street courtyard will allow for separate entrances to the community facilities and the high school.

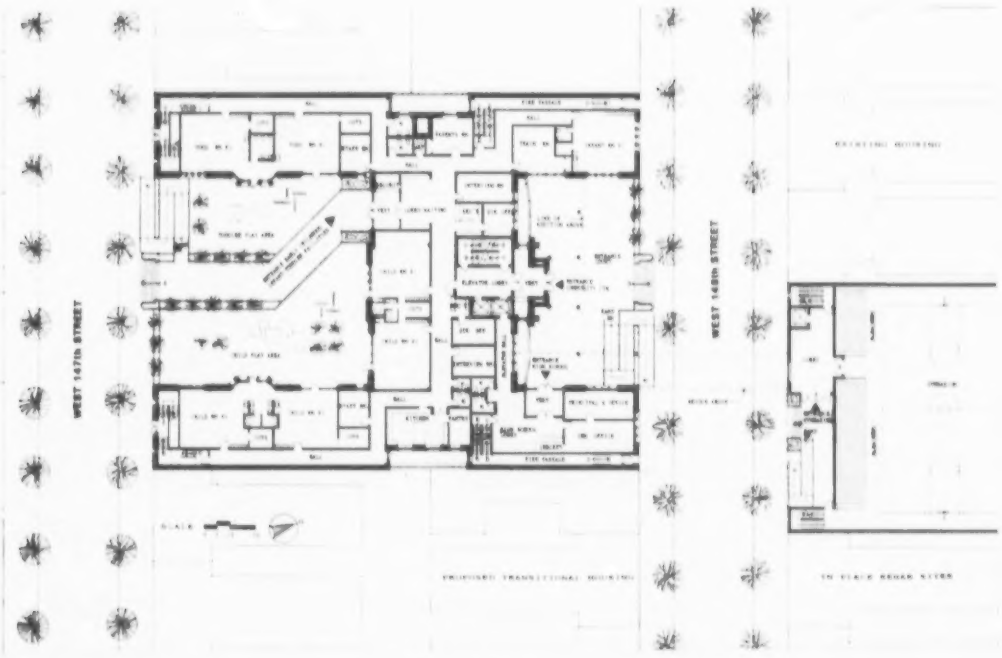
By placing in physical conjunction parent/adult education facilities, the high school, and the health/social support facilities, this center would facilitate and foster the involvement of all citizens; educational, cultural, and athletic activities will give parents, students and senior citizens a sense of participation in an entire community. This would be a place for service, a place for learning, a place of pride.

Principal
Francis L. Turner, R.A.
Project Architect
Joseph Fenton
Nicol Turner
Lisa Thomas
Arup Das
Henry Udoye
Steven Jung
Robert Smick





Section



Site/First floor plan

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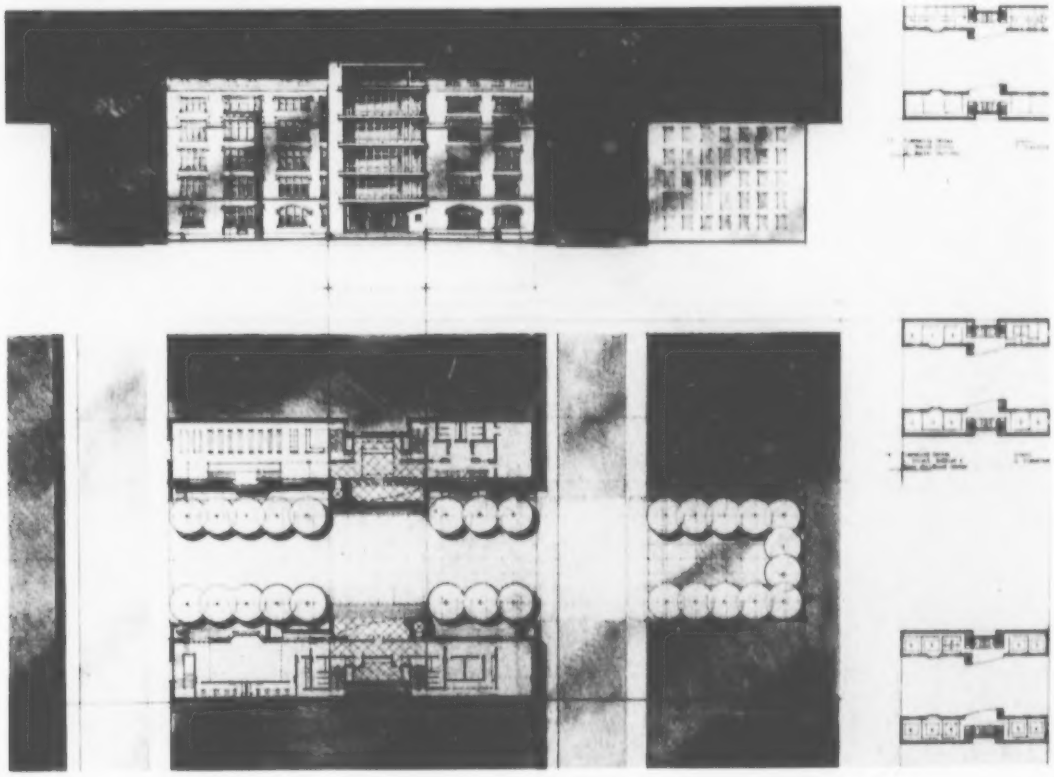
EXISTING NEIGHBORHOOD CONTEXT: Mid-block H-plan school between 147th and 148th streets in Harlem. Across 148th Street is a vacant lot which is the site of a proposed park.

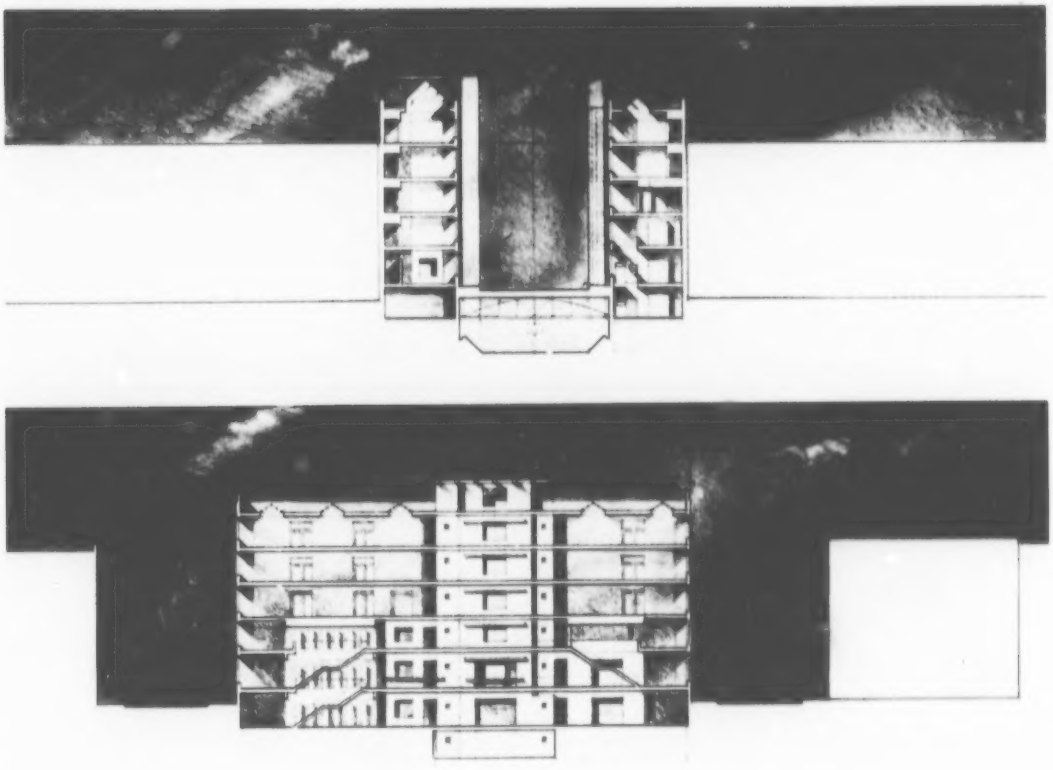
PROPOSAL: Modify the existing school building for the creation of an agora/park that is defined by two small-scale buildings, the high school, and the community center. The park extends across the street, reinforcing the proposed park at 148th Street. The new high school and community center share this park, and are connected beneath the plaza by the auditorium and gymnasium.

Marion Weiss
Michael A. Manfredi

The agora, as the center of activities for the school and community center, provides space for multiple uses, creating an improvisational, educational and cultural center. It is visible from all sides, and round-the-clock use creates a safe "heart" for the community.



Elevation and plans



Sections of community center and school

-1 Auditorium and Sports Center
1. Basketball/Multipurpose
2. Auditorium
3. Dressing/Audio-visual
4. Mechanical
5. Lockers
Note: Mezzanine includes Adult Education, Library, Mechanical Space

+1 Community Center
1. Library
2. Senior Center
6. Dance/Lockers

+2 Community Center
1. Library
2. Senior Services

+3 Community Center
1. Health Clinic
2. Social Services

+4 Community Center
1. Infant, Toddler and Early Childhood Center

+5 Community Center
1. Early Childhood Center
2. Parent/Teacher Room

+1 School
5. Administrative Offices
6. Dance/Lockers

+2 School
3. Shop
4. Science/Language

+3 School
3. Classroom

+4 School
2. Classroom

+5 School
3. Art Center Classrooms
Note: Roof Play

SUNSET PARK

SUNSET PARK

SITE

Sunset Park, on the western edge of Brooklyn, is an ethnically diverse neighborhood with a very large Hispanic and growing Asian population. The New Schools for New York site encompasses four basically flat lots, rectangular in assemblage shape (100 x 200 feet), bounded on the west by occupied residential buildings and a women's center, on the north and south by 51st and 52nd Streets, and on the east by Fourth Avenue, a major traffic thoroughfare on which a number of the community's institutions and services are located. The Sunset Park branch of the Brooklyn Public Library currently sits on one end of this site. The study project envisioned the demolition and replacement of the existing library building. Architects were also given the option of including the site (and building, if desired) of a warehouse across 51st Street from the main site. The warehouse site measures 60 x 80 feet.

TASK

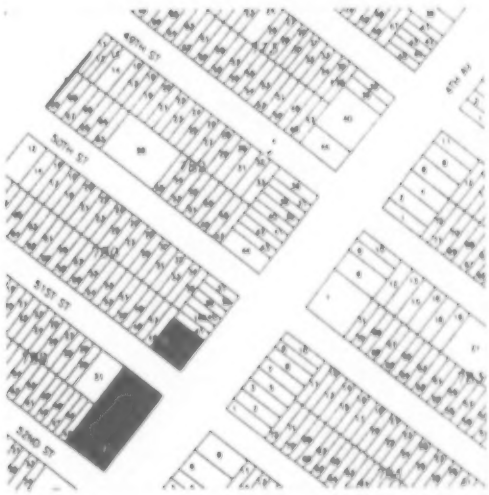
DESIGN A NEW BUILDING OR COMPLEX INCLUDING AN ELEMENTARY SCHOOL FOR 350 CHILDREN AND A PUBLIC LIBRARY.

ARCHITECTURAL PROGRAM

Architects were asked to design an elementary school for 350 students in pre-kindergarten through fifth grade and a new library with space for 50,000 volumes and seating for seventy-five. The new library/school was to include all-purpose rooms, meeting spaces, and a media room, all of which should be accessible for use by the community. Architects were to assume that both the library and school would be very heavily used by the community for a wide variety of programs. In designing for two active institutions to be combined in a single building or complex, architects had to consider issues of circulation between the library and the school, so that each could be kept secure, and evening and weekend accessibility to community spaces in the complex. Considerations of size, massing, scale, openness, in addition to the civic presence of both the school and the library were important concerns to the community expressed during meetings to discuss the project, as were the layout, safety, warmth, and brightness of the spaces within.

Sunset Park, Brooklyn

Site locator



Site plan

The aim of the proposed design is to open the building and its educational, cultural, and recreational programs to the community. This has been accomplished by:

Setting the mass of the building back from Fourth Avenue in order to create a park/playground visible to all.

Locating the gymnasium and auditorium under the raised park/playground and providing separate street entrances for each.

Combining the public library with the school building so as to both reinforce the importance of the library to the school and identify the library as an important part of education for all ages. A separate street entrance is also provided for the library.

Separating the pre-school/kindergarten center from the main body of the school and providing it with its own playground/park, indoor play space and greenhouse/nature center. This will enable educational and support programs to be scheduled separately from the main school/library building.

Providing for display galleries and special education/multi-purpose rooms for use after hours and on weekends by all members of the community. These are provided with separate street entrances to both buildings.

Providing ramps throughout, so as to make all parts of the school and playground/parks accessible. The ramps within the school buildings can also serve as primary encounter/exhibit spaces.

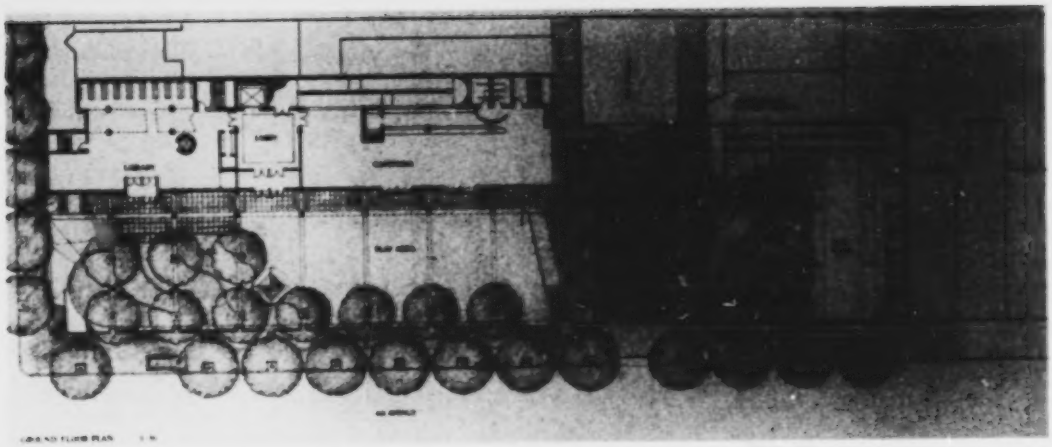
Restricting through-traffic on 51st Street by creating a public plaza. It is meant to invoke a more traditional use of public space (by the predominantly Hispanic community) to house exhibits and an outdoor farmers' market on weekends, and to help link the two school buildings. This plaza serves also as the principal entrance area to the school buildings and support facilities.

Fostering an active sense of security by raising and enclosing the playground/park, having all public exterior areas visible from the school and from the street, and providing gates and fences which can close off the school functions from the open community uses.

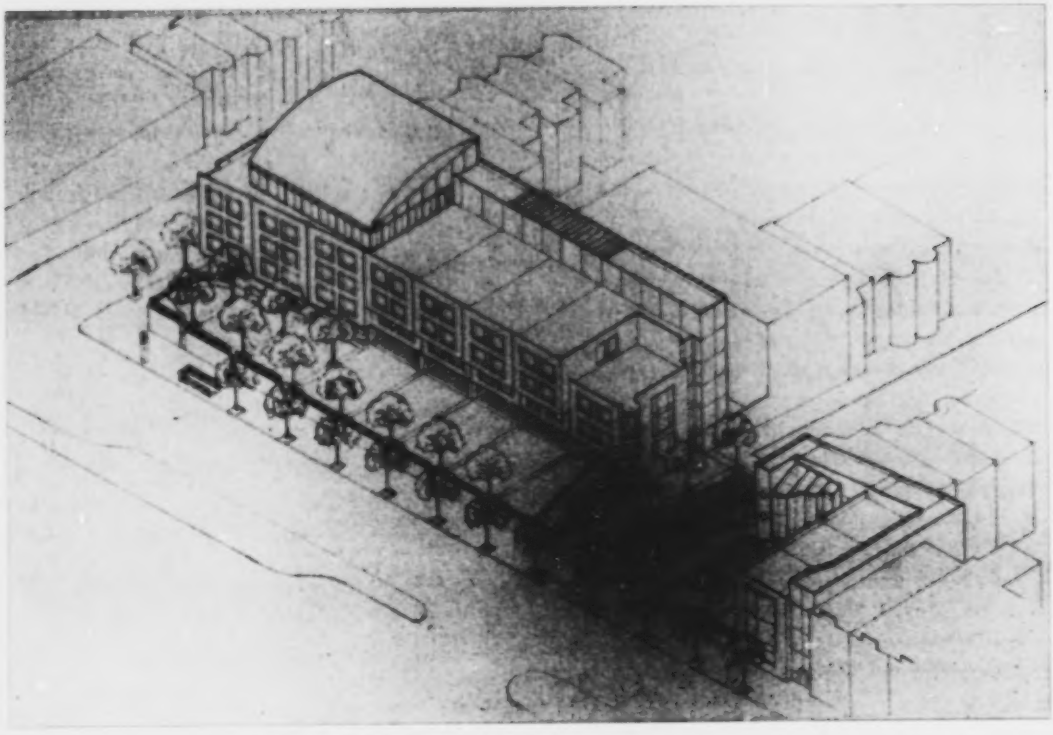
Victor Caliandro
Peter Bafitis
Brett Lafving
Fabrizio Buccarella
Patricia McCobb
Chia-lin Tsao

Sunset Park is one of many neighborhoods which front on Fourth Avenue. The avenue carries a series of schools, public libraries, courthouses, fire stations, churches, and other community-related cultural and civic buildings. The Sunset Park Community School and Library is part of this urban pattern. It differs, however, from the other buildings by presenting a playground/park and public plaza as its primary urban image. The architecture is supportive of this by deliberately avoiding a classical and monumental presence in favor of smaller scale. These are intended to relate to the more residential character of the side streets and the three to five-story mixed residential/commercial character of the buildings on Fourth Avenue. The predominant building material would be brick and brick tile, in keeping with the traditional materials of the neighborhood. Contemporary materials, glass, steel, and metal panels are also introduced to provide visual relief, as well as changes in texture, throughout the building.

The educational purpose of the school is reinforced by the intimate scale of the buildings, by carefully grouping classrooms and supporting functions, and by reinforcing an easy sense of movement throughout each building. This should be a school where the motivated student can return on evenings and weekends for cultural and recreational activities, and one where parents can come to share and learn as well.



First floor plan



Axonometric

BEST COPY AVAILABLE

Cristina Finucci
Chia-lin Tsao
Victor Caliandro

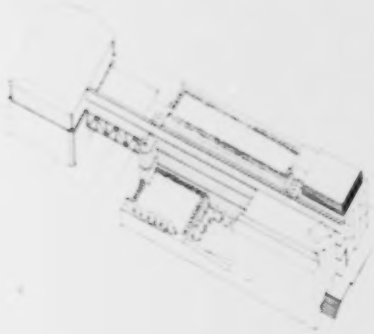
The school is organized around five building "blocks." These represent different activity groups and consist of: classrooms, library, administration, lunchroom, gymnasium, and auditorium. The building blocks are joined by a common space which is parallel to Fourth Avenue.

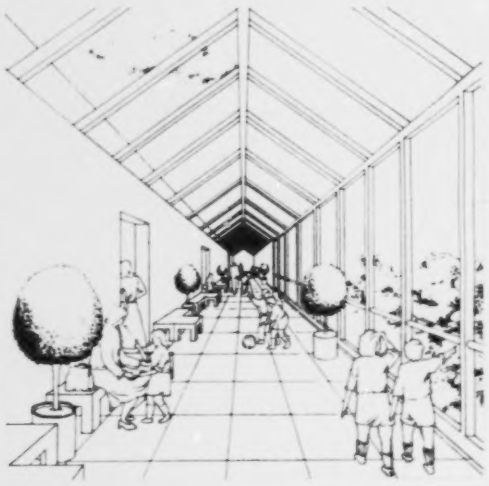
By means of the organization around the building blocks, the school is meant to become a part of the neighborhood and to be suggestive of daily life in the city. To this end, the classrooms are grouped into a residential scale building. In order to reach the other blocks, students must leave the home-like classrooms and walk along the common spine.

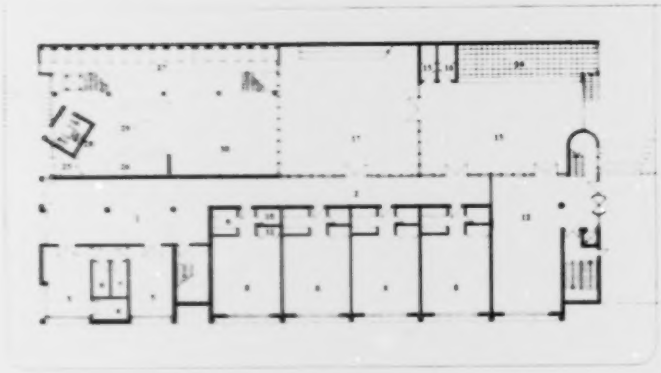
The common spine is thought of as a dynamic, bright, and safe indoor street or gallery which looks out over the play areas. Along it children can meet their friends, parents, teachers, and administrators.

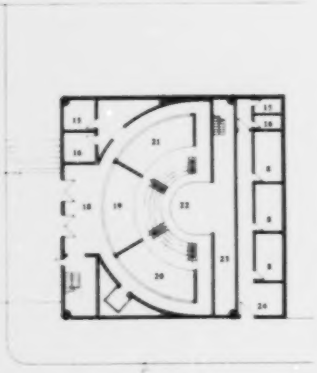
The area which bridges 51st Street can serve as an enclosed piazza but during school hours may be divided into two or more art/science classrooms. It can also be utilized as a flexible, semi-public area devoted to art shows or group activities. Because it is adjacent to the auditorium, it can also serve as an integral part of performance and viewing space. This area is glass-enclosed in order to heighten its sense of public importance on 51st Street.

Four open spaces/play areas are interspersed on different levels of the building and can be used by different groups of students at different times of the day.







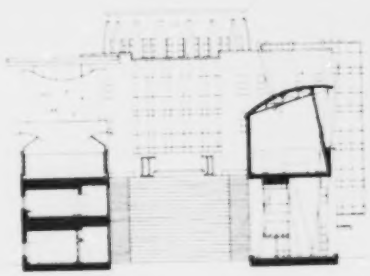


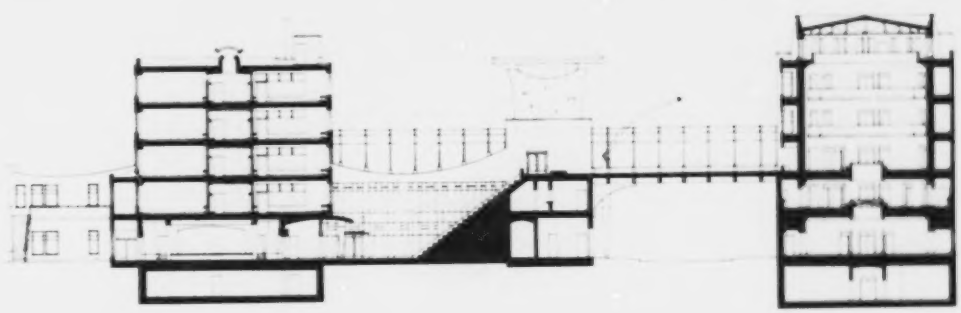
Clockwise from top left: Axonometric, perspective of gallery, first floor plan

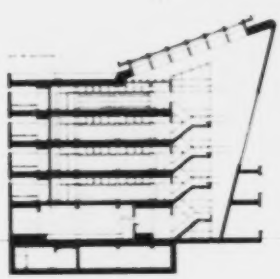
A school's images, scale, work and play environments, and classroom intimacy are critical to the development of a child's capacity to learn at the elementary school level. The creation of a library embodying civic dignity as well as encouragement to scholarship is equally important for a neighborhood. For this neighborhood in Sunset Park, the integration of school and library into a single complex is a primary concern.

Concept

The school is set within the full city block. The exterior areas created for play, the sandbox courtyard and steps, rooftop grasslands, and the playground provide infill connections of activity between discrete sculptural building elements containing precise activities. The rounded, encompassing shell of the main building's circulation well, the spiked gymnasium asking the student to question the scalar relationship of objects played in and those played with, and the cafeteria pavilion, a place to eat lunch while fantasizing about giant toadstools and hollow trees—these spaces all provide the opportunity for a bond between student and school encouraging learning and creativity. The library occupies the position of the current warehouse, which we propose to demolish, on the corner of 51st Street and Fourth Avenue. The school and library are connected by the playground bridge. A physical link to the street is provided by a steel arch extending from the bridge to a pylon on the Fourth Avenue median in front of the library. Within the library, the reading room rotunda becomes a setting appropriately scaled for the pursuit of knowledge by neighborhood residents. Public meeting spaces, for after hours use, are in the basement.







Construction

The complex would be constructed using cast-in-place concrete structures, slabs, and shells, with exterior facing of skimmed cement plaster and brick. A clear and colored glass and metal curtain wall system sheaths the gymnasium and the administrative wing. Interiors are of sheetrock and are fully sprinklered. A zoning variance is required to build the design in its current configuration.

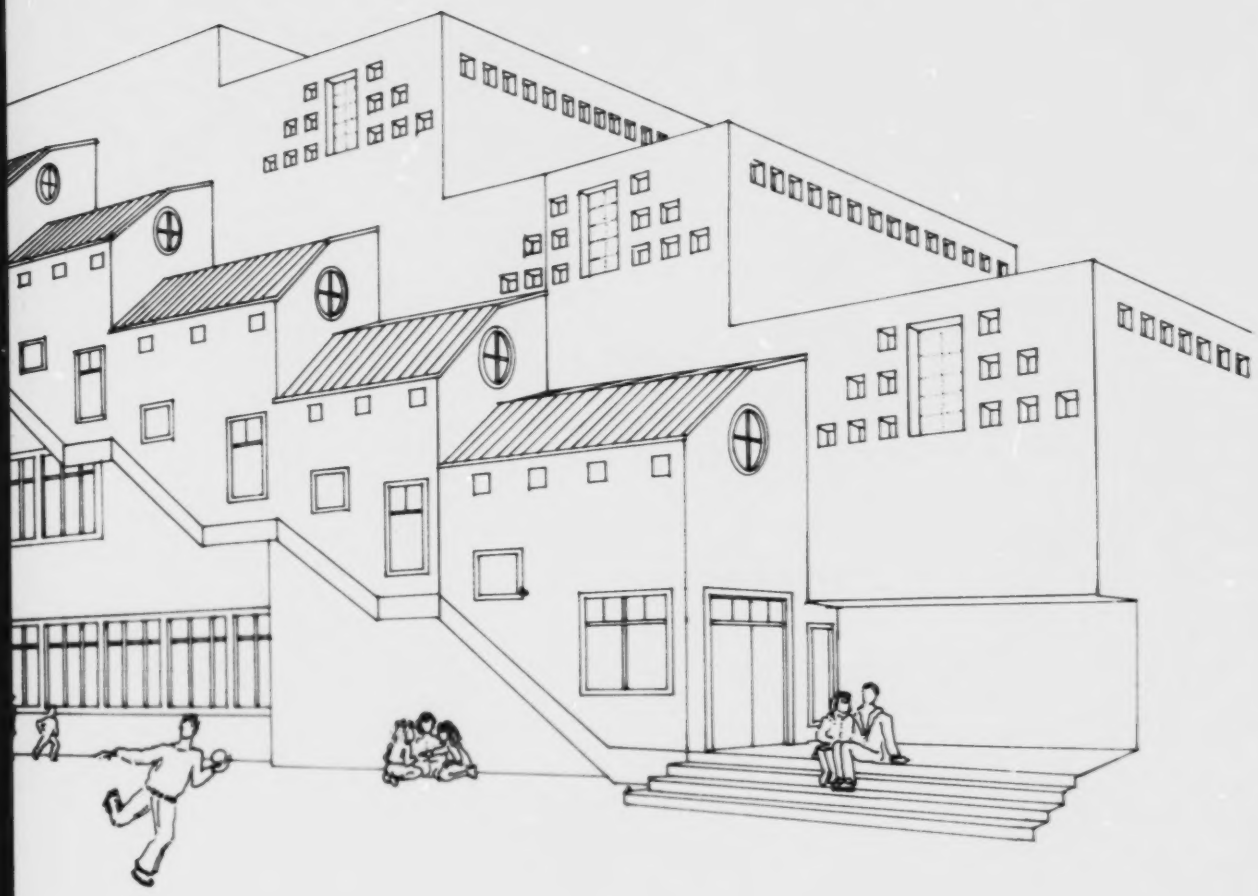
Our proposal sites the school along Fourth Avenue between 51st and 52nd streets and the library across 51st Street in the existing warehouse building. Fifty-first Street has been narrowed and trees have been planted to create a campus green space between the entrances to the school and the library. Together the buildings create a learning center which serves the Sunset Park neighborhood. Shared exterior and interior spaces allow for community interaction at street level and within each building.

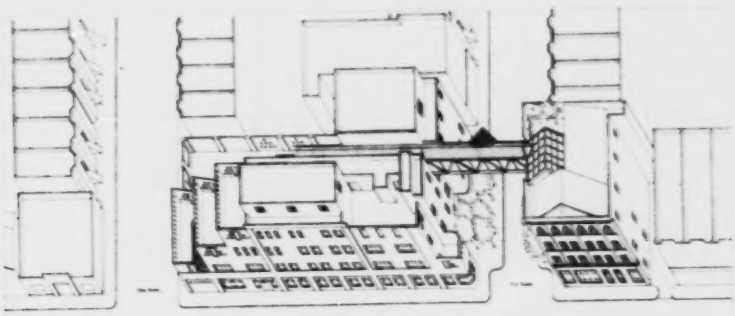
The library spaces wrap around a central atrium, carved from the existing structure, with views to the community campus and school beyond. The ground floor provides community exhibition space. Classrooms and adjoining play spaces stretch out along the south side of the school, thus receiving ample light and ventilation. The design provides individual classroom entrances with display cases for exhibits. Setbacks create intimate exterior play spaces for younger children, a school garden, and a general play space.

Administrative offices are positioned near the main entrance, encouraging interaction among administrators, teachers, students, and parents, and providing a lookout for administration, maximizing safety for school and community activities. Children move through the school in expansive hallways and egress staircases with glazed exterior walls, maximizing awareness of the playground, community campus and rooftop play spaces. At the top floor the stairway opens to a bridge spanning the street and linking the school with a combined children's and school library. Views from the bridge extend past the Gowanus Expressway to the New York Harbor.

R. Darby Curtis
Julia Doern
Mark E. Ginsberg

Playground perspective



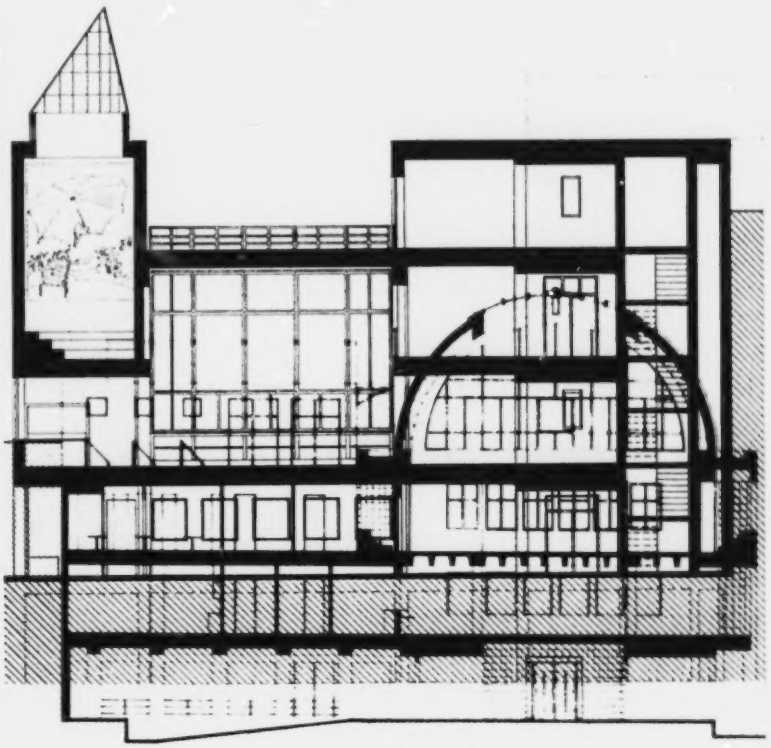


Axonometric at Fourth Avenue

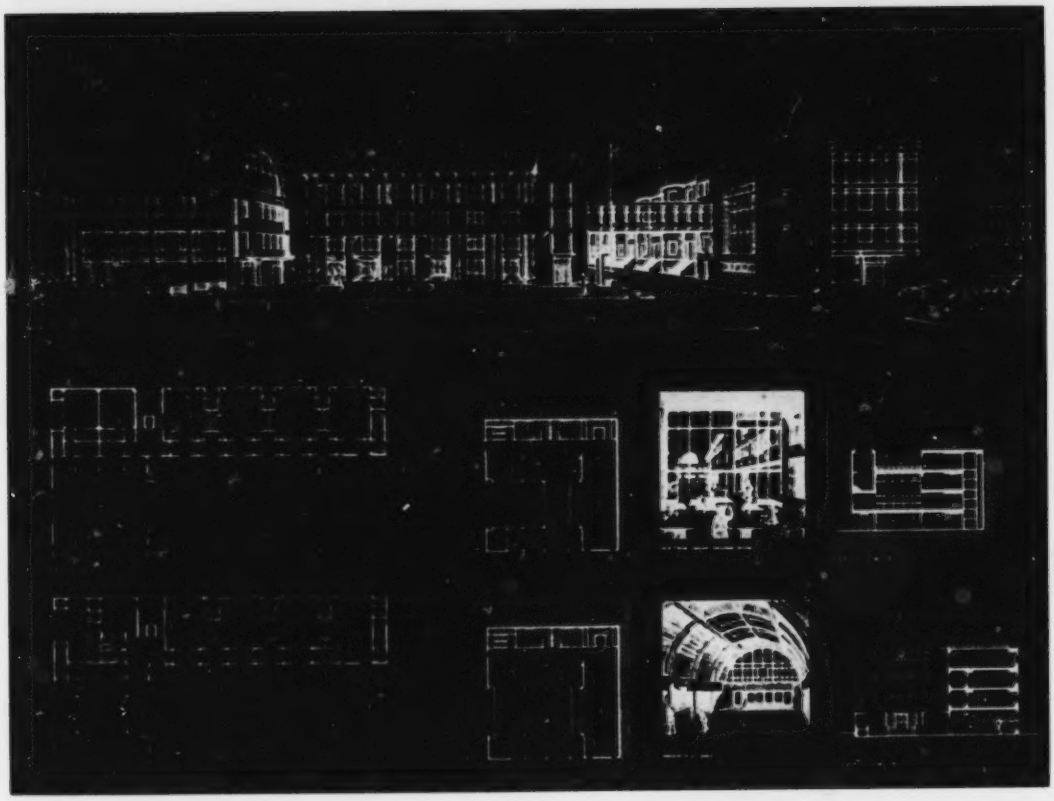
A school is a place where members of the community can gather to learn from each other and the world around them. Typically, urban schools are fortress-like buildings which appear to be defending themselves from their context rather than embodying it. By reducing the size of the school and creating an inviting appearance, schools can become the civic centers they are meant to be.

It is our objective to create a building that associates itself with the community and provides a sense of place. Due to the dense urban nature of the site, an open green space was designed to act as the forecourt and playground of the school. The playground becomes one of a series of green spaces already existing in the area. This space is defined by the classroom bar (whose metaphor and scale are derived from the neighboring brownstones), and the publicly accessible programs—auditorium/gymnasium, and public library. This organization enables the child to relate to the "space," as well as the context. The secured play area is animated by the stoops, which act as bleachers, and the playground equipment.

It is the overall sense of openness that this design promotes which we hope will encourage community participation in the numerous activities of the school.



Composite view



School key

1. Playground
2. Main entry
3. General office
4. Principal's office
5. Vice-principal's office
6. Auditorium
7. Service entry
8. Classroom
9. Bathroom
10. Cubbies/Lockers
11. Kindergarten
12. Cafeteria
13. Kitchen
14. Teachers' lounge
15. Special Education classroom
16. Gymnasium
17. Locker room
18. Gymnasium office
19. Art room
20. Bridge
21. Future park

Library key

1. Main entry
2. Information/Check-out
3. Administration
4. Community room
5. Bathroom
6. Reading room
7. Study carrels
8. Stacks
9. Storytelling room

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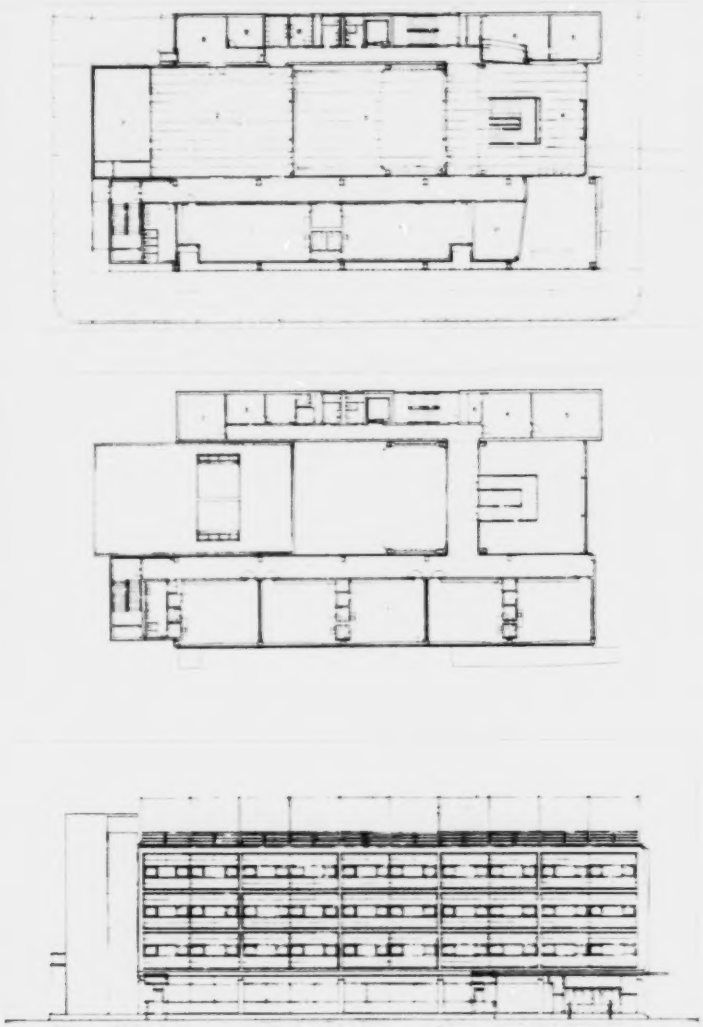
The intention of New Schools for New York is to propose building forms that could help to broaden and enhance the mission of New York's public schools in the face of crisis in the lives of the children who use them and the neighborhoods they serve. Schools in an urban context are typically organized in a single economical mass traversed by a web of dark corridors; each room in the building, regardless of its place in the life of the school, is represented by a door in the corridor. The intention of this project for an elementary school in Sunset Park, Brooklyn, is to offer a building that is made more meaningful by being more easily comprehensible and psychologically accessible.

Toward this end the school's programmatic parts are organized on the site in three simple bands. The classrooms are contained in a four-story block fronting on Fourth Avenue with a playground on the roof. A narrow band at the back of the site contains offices, service areas, and unique smaller spaces including the art and science classrooms. The largest band at the center of the site contains all of the communal/public spaces including the lunchroom, auditorium, library, and gym, as well as a courtyard and entry lobby. The center band is overlooked by glass enclosed corridors in the classroom block and windows in the other spaces.

Part of this project is a recommendation that the public library called for in the program be housed in the loft building located on a portion of the given site.



Top to bottom: First and second floor plans and Fourth Avenue elevation

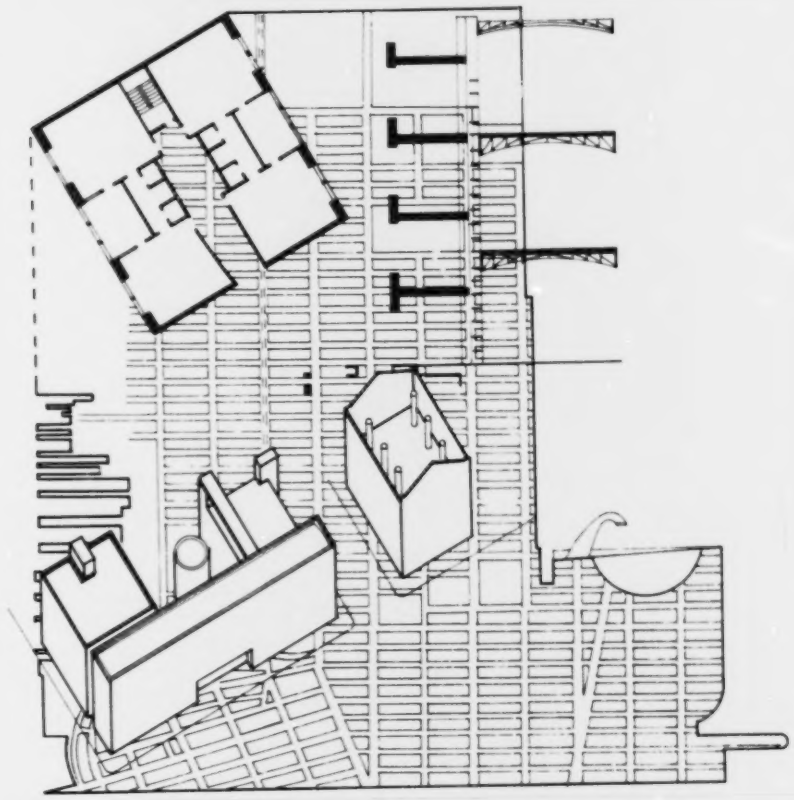
1:4

We believe that a school should serve as a fulcrum for—or mediator between—the participants in several significant relationships: those binding the child to the school, the school to the community and, ultimately, the child to the community. Our objective is to nurture the ideal realization of these relationships by creating specific spaces for the rituals comprising them.

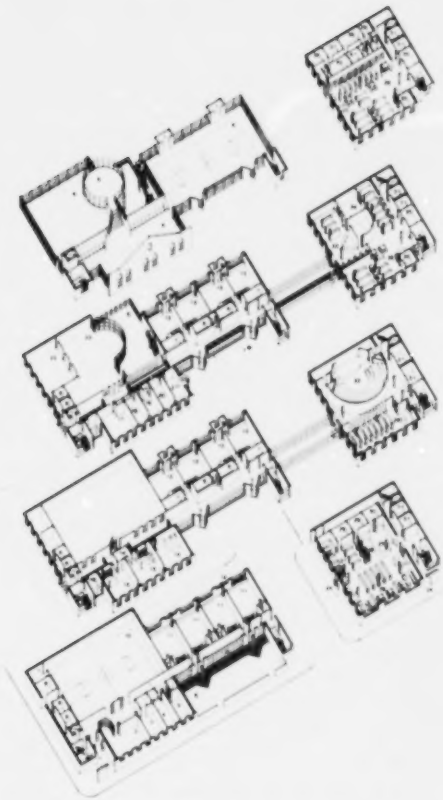
The library is sanctified yet accessible. The stairs and carrels nurture the relationship between a person and a book. The library is a monument comprised of book stacks which filter the light that reaches the school as education disperses the light of truth through the filter of knowledge.

Interactions between children of different ages are facilitated by the widened corridor between the classrooms. More intimate interactions are nurtured by the shared work spaces and washrooms which dissolve the walls between classrooms. The teacher is demystified as she shares the same work space as the child. The sink lets a small child reach it but also marks her growth with the event of being able to reach it from the floor. It acts didactically in choreographing the run-off water in order to express the usually hidden technology of drainage.

The gutted warehouse has been treated as an artifact of the city in which the child can play. The sense of self which the child will develop in the school will allow her to approach the "other" of the city with inner strength, and even, as the playhouse/warehouse suggests, with laughter.



Composite drawing showing site, axonometric, plan, and details



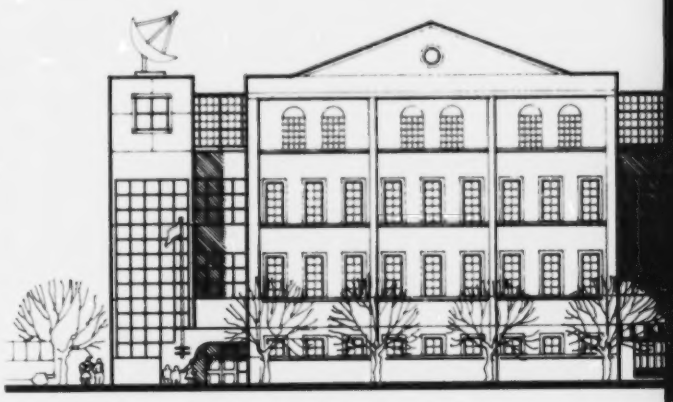
Axonometrics

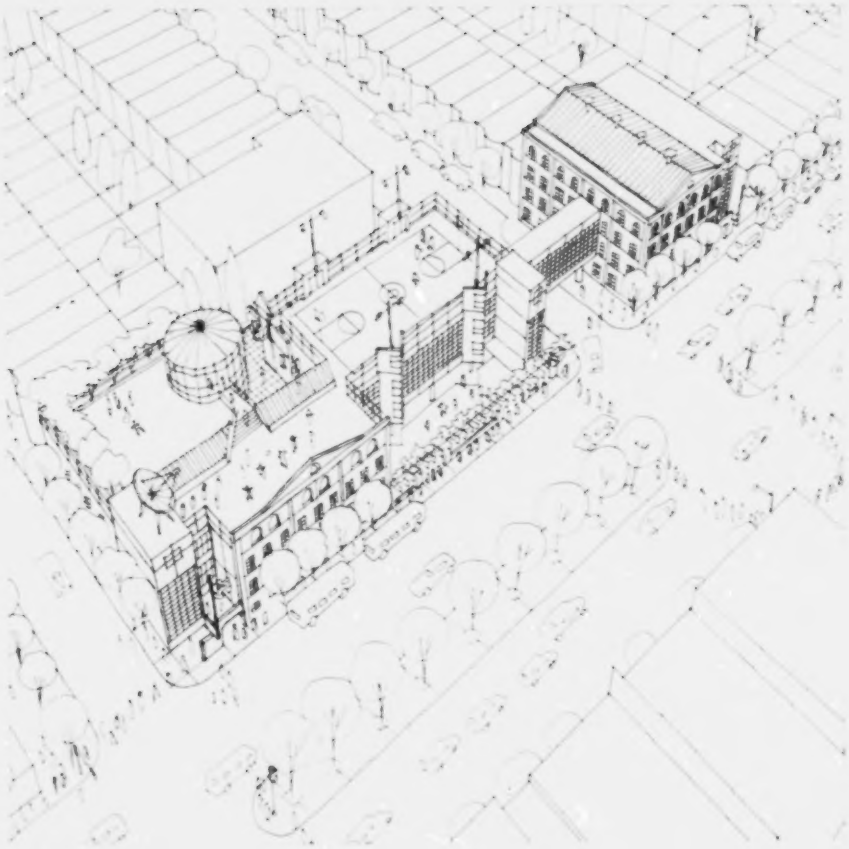
This project explores the combination of a small elementary school and a public library and the potential for adaptive reuse of a building on the site. The school occupies the long, narrow site between 51st and 52nd streets. The library is housed in the renovated warehouse. This separation is appropriate to the two distinct and sometimes conflicting programs. Each of the school's main components has its own entrance and drop-off point along Fourth Avenue. As required by the program, the kindergarten/day-care and outdoor play areas are located on the ground level. Underground parking and delivery minimize the school's impact on the neighborhood.

Hunter Crabtree
Shih-Ming Kao
Mario Torroella
George Metzger
Stephen Friedlaender
Cameron McNall
Vassilios Valaes
Cindy Mahoney

The project also maximizes certain features which urban schools frequently lack—abundant natural light and outdoor play space—and promotes community access and identification. The elementary school spaces occupy the second and third floors and are organized along a two-level interior street which connects to the children's library and auditorium. Vertical openings between floors, a linear skylight, and glazed corridor walls bring in daylight and open the school to view from the street. A community mural wall in the four-story lightwell and niches along the interior street provide locations for artists working with community groups to integrate an on-going record of community names, images, and events into the daily life of the school.

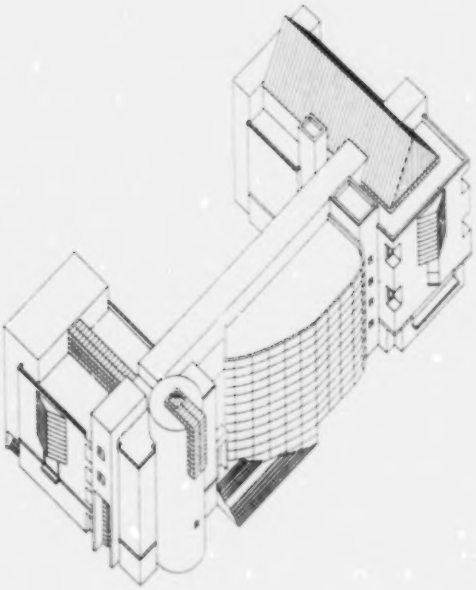
On the exterior, the pedimented facades unify new and existing buildings and create a distinctly urban image. The buildings' massing and mix of materials echo the odd juxtaposition of existing structures along Fourth Avenue. Rooftop enclosures, lighting, and communication equipment add to the neighborhood's rich roofscape.





Aerial perspective

Elevation



Axonometric

Schools began with a man under a tree, a man who did not realize he was a teacher, discussing his realizations with a few others who did not know they were students. The students reflected on the exchanges between them and on how good it was to be in the presence of this man. They wished their sons, also, to listen to such a man. Soon, the needed spaces were erected and the first schools came into existence . . . .

—Louis Kahn

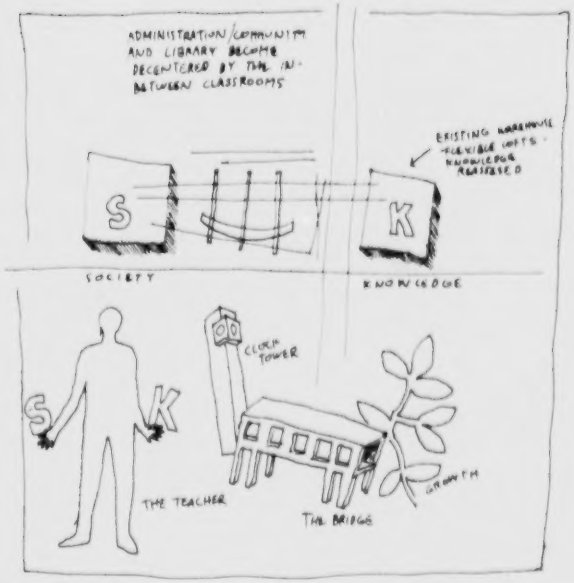
Bruce Lindsey
Paul Rosenblatt

This building is a composition of simple, knowable, block-like objects connected to a big wall. The wall, which contains the main hall for the school, is the backbone of the complex. It unifies the three central activities of the building: study in the central classroom block, recreation in the southern assembly block, and reflection in the northern library block. The two ends are solid and protective, acting like surrogate parents for the day. The middle block, representing the child, is clear, flush-glazed and fragile, acting like a huge kinetic billboard, exhibiting the energy and activity of the school to the community. It is both exuberant and introspective. Together the blocks create a stable, family-like structure forming a solid architectural foundation for the growth of the community.

The Classroom

Learning needs are addressed within the classroom by providing an area for both large and small group instruction. A low wall creates two areas in the classroom, one active, the other reflective. The teacher's desk sits on a turntable which straddles the wall. Rotating the turntable allows the teacher to choose between a secluded reading area by the window or a public podium from which to teach.

The main consideration of this project, one which has political, social, and educational, as well as architectural, aspects, is the child and his or her cultural education both as individual and member of society. We are all formed subject to our culture, and our ability to function depends on our "place" within it. Culture can be said to be made up of two factors: society and knowledge. Society is the system in which all values, structures, myths, etc. are contained. Knowledge can legitimize or delegitimize society's makeup. The more free-flowing and available knowledge is, the more it becomes a critical tool with which to judge and transform a society. And yet even knowledge itself needs to be seen from a critical standpoint, a reference from which it can be taken from the level of abstraction and used or rejected in real experience. Culture is then redefining itself constantly as an object-subject relationship continuously changes into a subject-object relationship and back again. To survive and grow into a healthy adult, the child must be given the way that will place him or her between society and knowledge, belonging to and free of both, for it is only in that place that we can be full human beings.



Conceptual sketch

Architecture can represent this idea via metaphor. In this project forms and their interrelationships are used to try to embody an idea of culture and coming into being. The school has been given three main forms, each incorporating the main elements of the program. These are: the administration/community center, placed together as they represent the adult world both outside and inside the school and so the "system" the child must deal with; the classrooms, representing the child to be filled; and the library, where knowledge resides. This first reading can lead, hopefully, to a more complex series of readings where the metaphor of coming into being can grow. The attempt has also been made to create an environment which celebrates its function and inhabitants, giving a sense of place and autonomy to the students, teachers and community.

SONNINO/WONG STUDIO

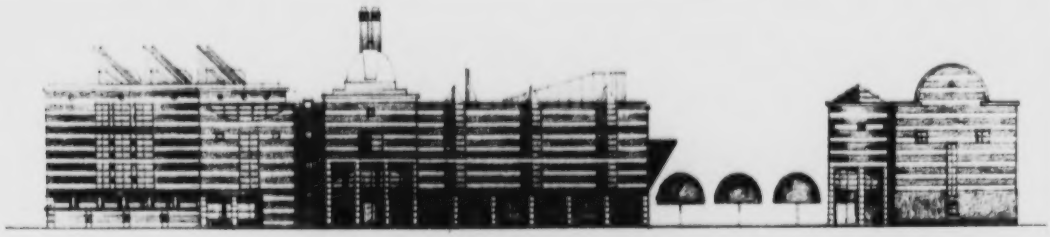
Patricia Sonnino
Janine Wong

In designing a new school for Sunset Park we address certain dualities inherent in contemporary conceptions of school. The school building's purpose of providing the environment for educating our children is now expanded to include the community and to provide a public forum where both school and community issues can be addressed. The building should reflect the school's public and private nature.

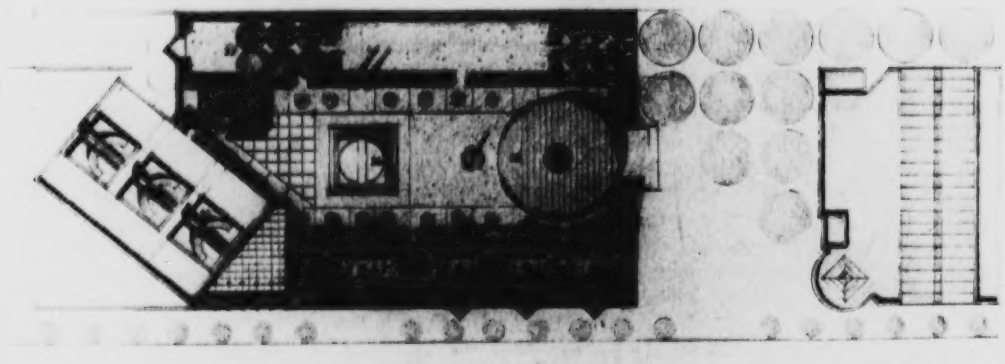
The ground floor consists of offices and meeting rooms for principal, teachers, and staff arranged around strongly figured public spaces that form the core of the building and provide a forum for school and community meetings.

On the upper floors, the core of figured public spaces function as play and meeting places and become landmarks for the "neighborhoods" of classrooms that frame them. The classroom configuration is crystalline in form, a symbol of structure and growth, and provides more private places for work and study. Each crystal consists of two large classrooms flanking a shared room for crafts and computers. The thick walls wrapping the classrooms provide storage for books, computers, teaching aids, etc., while keeping the room itself uncluttered.

The work/play relationship in educating children, especially kindergarten through fifth grade, is most clearly manifest in the roof design. The roof is a city in miniature with its tree and sculpture gardens, playgrounds, experimental gardens and greenhouses, observatory, and outdoor theater. More than a play area, it is a place to learn about earth and sky, plants and stars. It contributes to a balanced learning environment by acting as the interface with nature within its urban setting.



4th Avenue Elevation-School and Public Library



Fourth Avenue elevation and roof garden plan

WASHINGTON HEIGHTS

WASHINGTON HEIGHTS

SITE

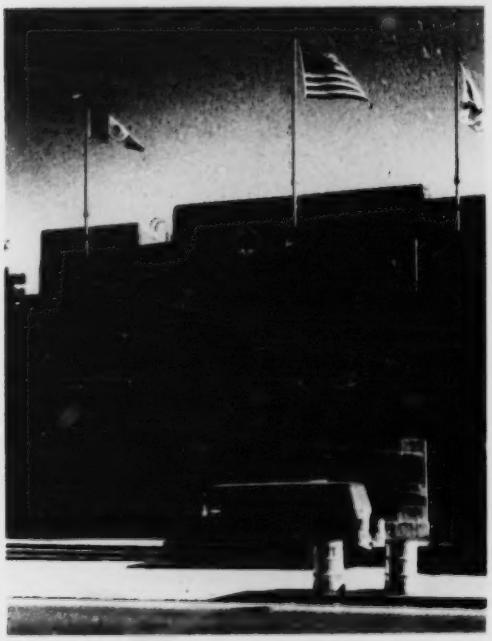
Washington Heights is a densely populated, predominantly Hispanic community in northern Manhattan. Schools in the community are extremely overcrowded; in 1990 more than 7,000 neighborhood children were bused to schools in Harlem and the Bronx. Others attended mini-schools, temporary structures built in almost every schoolyard in the area. The Board of Education plans to build a number of new elementary schools in this district, but there are not enough appropriate large sites to match the size of schools the Board projects. A survey of the area, however, shows a variety of small sites, including vacant lots and parking lots, which could be potential locations for new schools. The New Schools for New York site, at the northwest corner of 172nd Street and Amsterdam Avenue, is comprised of two lots with overall dimensions of 79 x 100 feet.

TASK

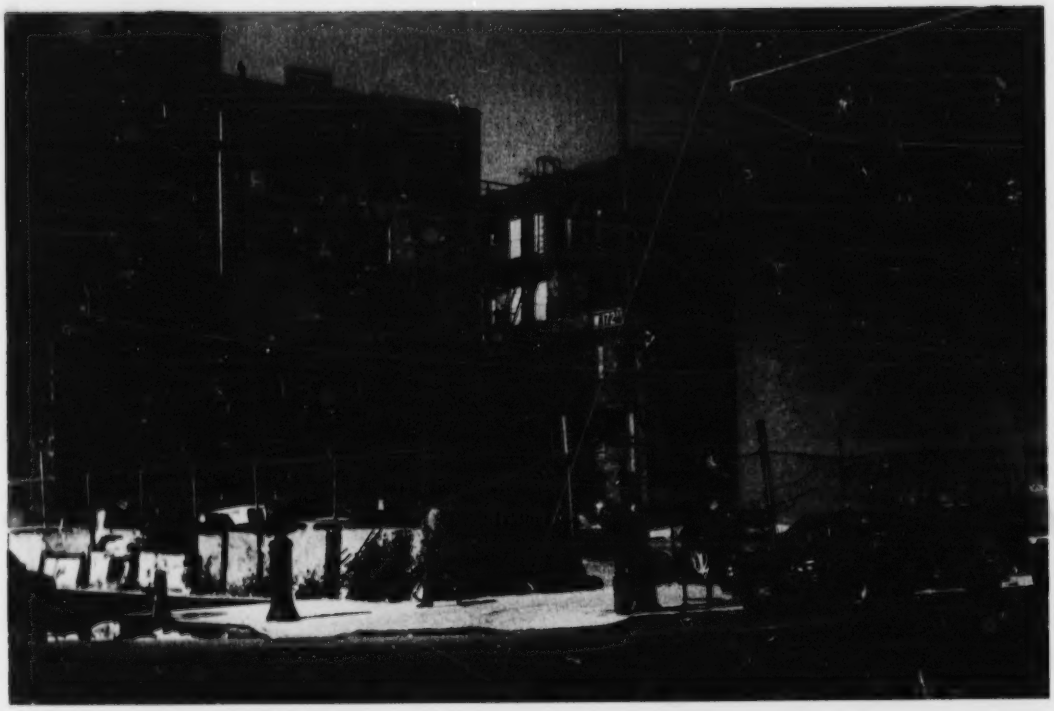
DESIGN AN EARLY CHILDHOOD CENTER ON A SMALL CORNER SITE.

ARCHITECTURAL PROGRAM

Architects were asked to design an early childhood center that would accommodate a health clinic, infant and day-care areas, and 200 pre-kindergarten through second grade students. Spaces were also to be provided for community meetings. The small site required the architects to address, among other issues, the problem of how to provide appropriate, accessible play space for young children, with the possibility of taking advantage of Highbridge Park across the street.

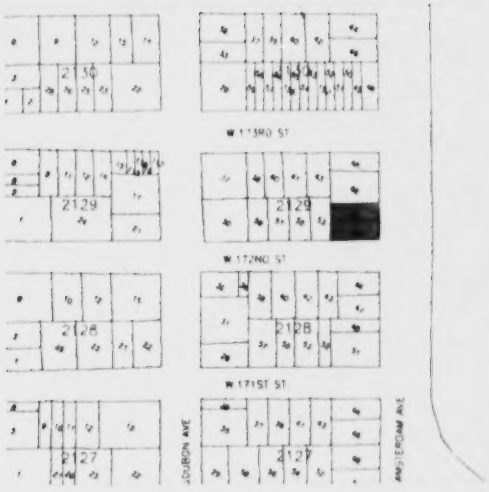


New York City Parks Department facility in Highbridge Park, Amsterdam Avenue and 173rd Street



Washington Heights, Manhattan

Site locator



Site plan

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Mobile Mini-Institutions
Models and inspirations to be found on the streets of New York: school buses, mobile post offices, newsstands, street vendors' stalls.

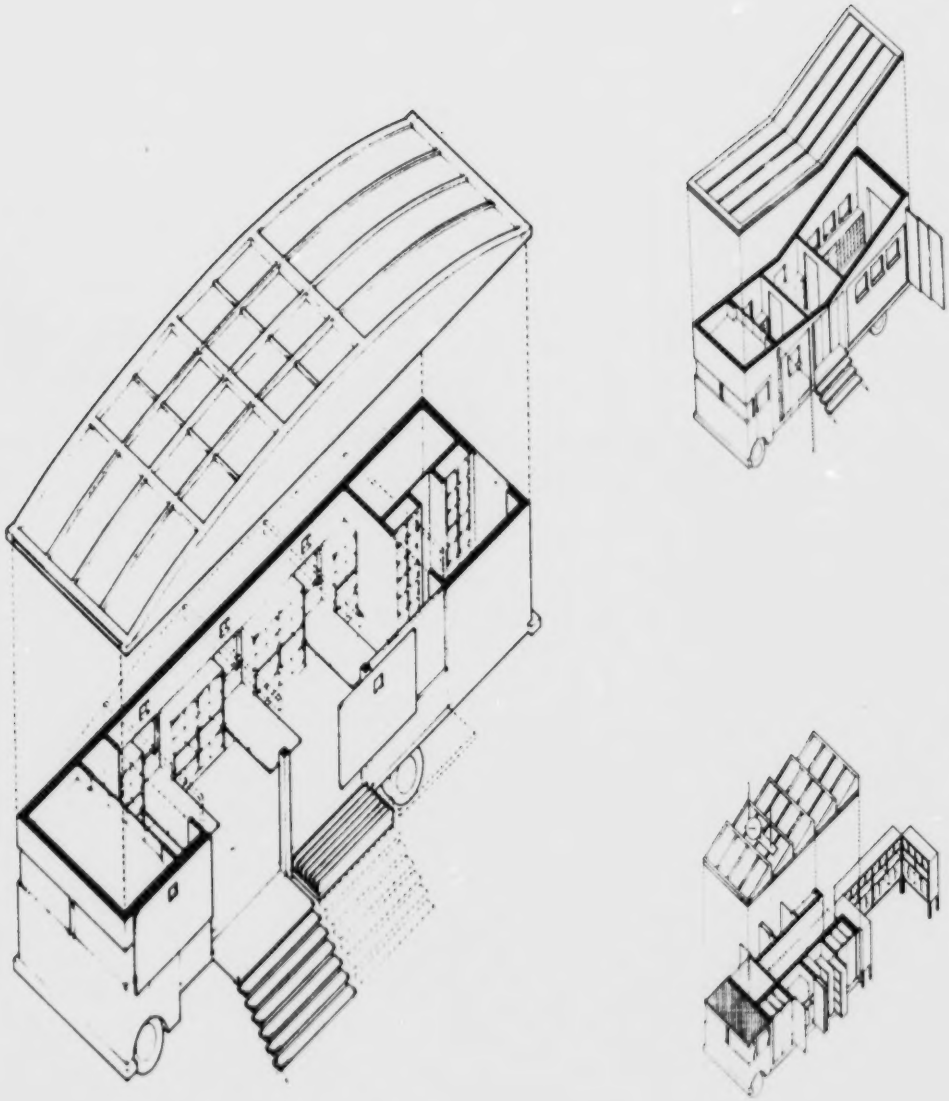
Mobile Mini-Schools
1. Each *vehicle* accommodates classes of twelve students. 2. The vehicles would make possible a variety of learning experiences: while parked in the school headquarters building; outdoor classes and play in parks throughout the city and beyond; and class trips to various cultural institutions and other sites. 3. Learning through *live first hand experience* would be promoted. 4. The school vehicles can operate in groups or individually. They are self-sufficient, each containing a restroom and computer work area. 5. Desks and chairs can be folded away to provide larger open spaces for play. 6. Sliding side doors can be opened to allow indoor/outdoor connections. 7. Pairs of school vehicles can be connected to create larger combined classroom space while the vehicles are parked in the headquarters building or outside.

Mobile Mini-Clinic and Mini-Library
1. The clinic and library vehicles would move through the neighborhood streets setting up for business in a variety of locations (sidewalks, parking lots, parks). 2. The clinics would bring medical services (pre- and post-natal care, emergency treatment) to the streets and homes of neighborhood residents. 3. The libraries would provide access to computer and telecommunications equipment in addition to distributing *knowledge* in a variety of forms (books, audio/video tapes, computer disks). 4. A hospital and a main library would serve a headquarters building from which the fleets of vehicles would operate.

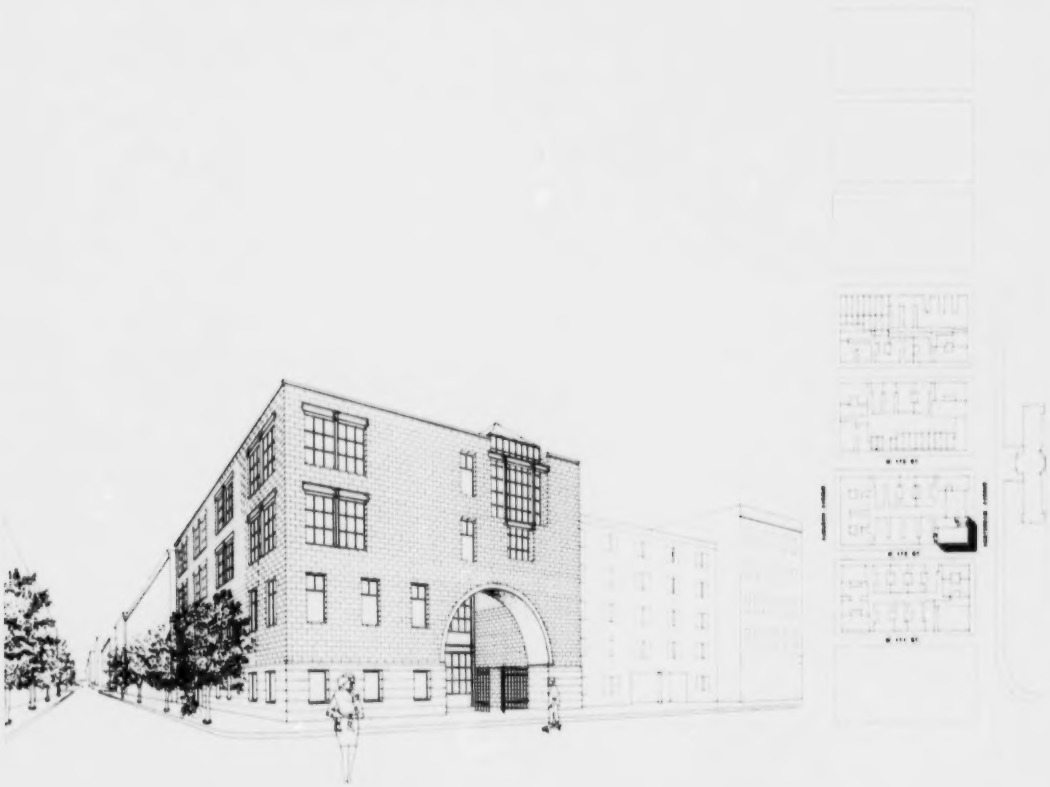
A School Headquarters for Washington Heights
1. The proposed building would be divided into four sections or *sub-schools*. Each grade will have its own offices, assembly area, lounges, and restrooms. It is proposed that each sub-school will have its own headmaster and staff. 2. Each sub-school will have three pairs of school vehicles, thereby accommodating 72 students. 3. In addition, an affiliated *day-care/infant center* is proposed. This section would not operate mini-school vehicles as the children are too young. 4. Some facilities would be shared by the sub-schools and the day-care center: a kitchen and a small cafeteria; nurse and physical education offices; and a small library. 5. Future expansion is possible south along Edgecombe Avenue or north along Amsterdam Avenue.

A Playground for the Community
1. The roof of the school headquarters would become, together with Highbridge Park, a *stage* for *communal events* and *activities*, such as festivals, fairs, and outdoor athletic activities. It would also serve as the school playground. 2. The playground and park would be made accessible to Mini-School vehicles by a ramp off Amsterdam Avenue. 3. The school building also becomes a *base* that supports the communal *theater* and *hall*. 4. The theater would serve as the school auditorium and would also stage formal cultural and political events (plays, concerts, debates, and lectures) for the community. 5. The hall would serve the school gymnasium and also house indoor entertainment and athletic events for the community.

Some Comments about the Site
1. The Highbridge Park location was chosen instead of the given site on 172nd Street: a. so that a layout that better accommodated the Mini-School vehicles could be used; b. so that the Park could be better engaged as a part of the School and the community. 2. The proposed School building would slip into a space that is at present not particularly useful. 3. It is proposed that the 172nd Street site be used instead for low-income housing; this would be consistent with the existing residential typology of Amsterdam Avenue and 172nd Street.



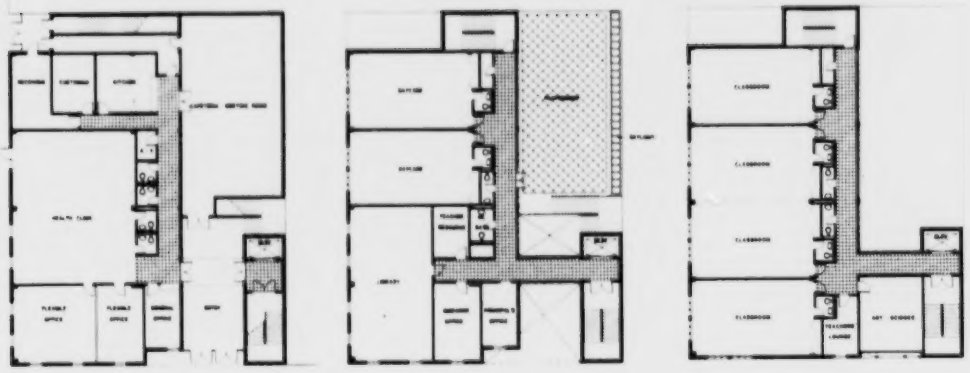
Clockwise from left: Mini-School, Mini-Clinic, Mini-Library



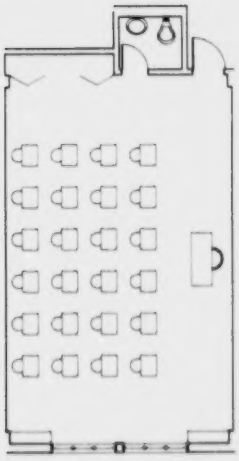
An Elementary School for Washington Heights

Although this site and program are small relative to New York City standards, we believe that our proposed school will prove to be an important contribution to the education of children in a neighborhood so seriously lacking in educational facilities. It is our intention that this be a "neighborhood" school: the type of communal facility that is familiar to all residents of the area—where the students all live within walking distance—where working people can come at night for educational or social activities—where local residents can come for health services—and where young working parents can leave their children in day-care.

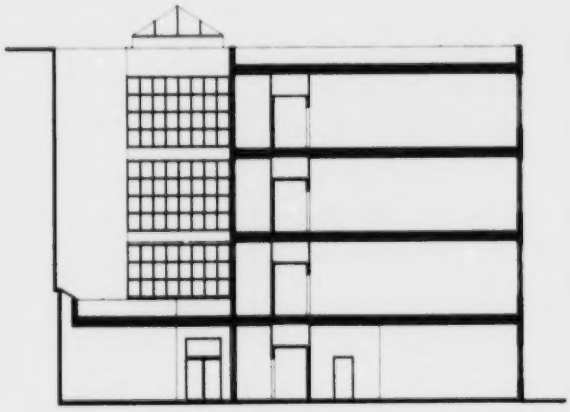
The design of the facade is meant to give the sense of warmth and familiarity that is desired to encourage the participation of the neighborhood population. Forms and materials having historical precedence in scholastic architecture are used to elicit associations with established institutions of learning. The building envelope follows the usual constraints of this typical early twentieth century neighborhood; the facades come right out to the sidewalk line and are equivalent in height to the adjacent buildings. We hope the architectural design will work harmoniously with its neighbors, rather than imposingly as many architects and school departments have done in the past.



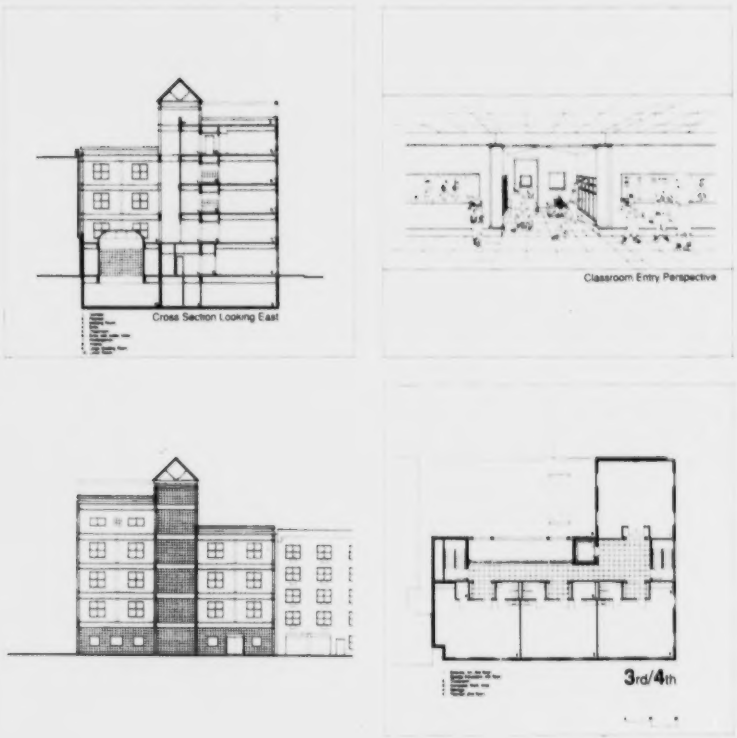
First, second, and third/fourth floor plans



Typical classroom plan



Section



Clockwise from top left: cross section looking east, classroom entry perspective, third/fourth floor plan, and west elevation

Schools are for children. The most important element in the design of any schoolhouse is the space in which the children spend most of their time, namely the classroom. This schoolhouse, accommodating the kindergarten, first, and second grades, is designed on a 15' x 30' module to provide a flexible response to the varying size requirements of classrooms for the different grades. The classroom sizes can be either 30' x 30' or 45' x 30'; if a special need arises a small unit of 15' x 30' can also be created. In addition to the actual teaching space, the 30' x 30' module contains classroom support spaces such as the entry, toilets, teacher storage, and cubbies.

In addition to the schoolhouse this design contains an infant/toddler center, a health clinic and community-use spaces. The schoolhouse is entered from 172nd Street. The first floor contains administrative offices and the infant/toddler center. The north section of the ground floor contains the health clinic, a totally separate function, with its own entrance off Amsterdam Avenue. The second floor contains two large kindergarten classrooms, a playroof for the kindergarten, and the school library. The first and second grade classrooms are on the third and fourth floors along with the special purpose classrooms. A screened playroof is provided for the first and second grades. The lower level contains the support functions, including the lunchroom and kitchen. A large meeting room intended for community use is also located on the lower level where it can be used in conjunction with the lunchroom/kitchen as required, or used by the school as a rainy day playroom. The fifth floor, containing the balance of the community-use facilities, would have controlled access.

The mass of the building has been articulated to relate to the heights of the adjacent buildings on 172nd Street and Amsterdam Avenue. The facade is of masonry with punched window openings. The walls of the ground floor and the stair tower would be glass block to provide a strong visual connection to the community.

ATRIUM SCHOOL

Urban qualities
Conforms volumetrically to existing neighborhood; clear accessibility: pedestrian and vehicular; tight security and easy control

Spatial and Functional Qualities
Design offers: spaces which encourage diversified outdoor and indoor activities; academic spaces open to light, ventilation, and outdoor views, hospitable to long hours and intensive use; non-academic spaces which are introverted; circulation which provides for intimate, protected spaces.

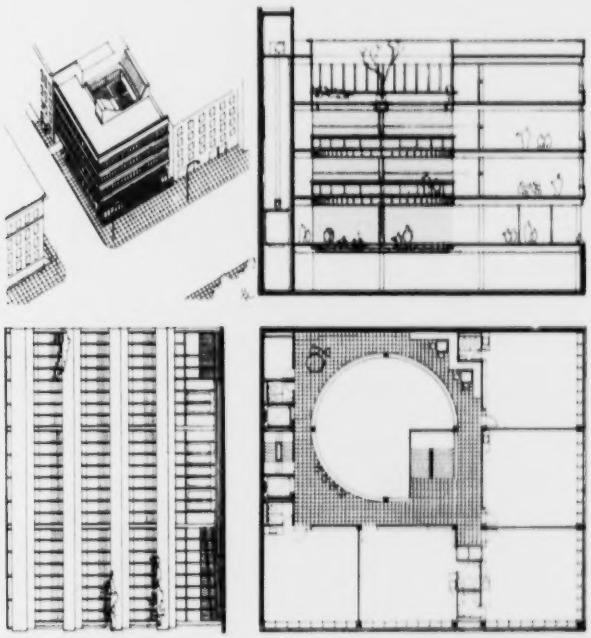
The design maximizes flexibility and versatility: identical floors allow vertical interchange; modular spaces simplify horizontal flexibility; simple spaces facilitate multiple uses—the library doubles as classroom and workshop.

Aesthetic Qualities
The forms are abstract, geometric, simple, transparent, and anti-decorative: the building is made of primary forms and colors.

The Proposal
Academic units cover 14,000 square feet. Each unit is 24 x 24 square feet. Five units per floor may be combined to form larger spaces. Use of vertical and horizontal surfaces is maximized, for example, window frames used for transparency projects, planting. An open classroom arrangement is preferred.

Atrium and balconies combine 2,250 square feet and 75,000 cubic feet. The atrium is the heart of the school. Its central space, including indoor court and hall, provides for: a performance area, circular amphitheater, grand play area, multi-floor exhibitions, and informal activity. Balconies form a perimetral corridor overlooking the atrium, and are wide enough for circulation, study, exhibits, storage, play, and informal meetings. The 2,000-square-foot plaza provides a transitional space between the street and school. It also serves as an introductory space to the school and an outreach to the community. A gallery provides shelter and shade. The plaza also contains a student drop-off and pick-up area, outdoor exhibition space, and an informal meeting area for parents, students, and teachers.

The patios comprise 2,500 square feet of controlled and protected outdoor space, a solarium, gardening and play areas, experiment and art facilities, and places for social gatherings. A roof terrace gives a 3,750-square-foot area for outdoor recreation and gardening, as well as seasonal activities and projects.

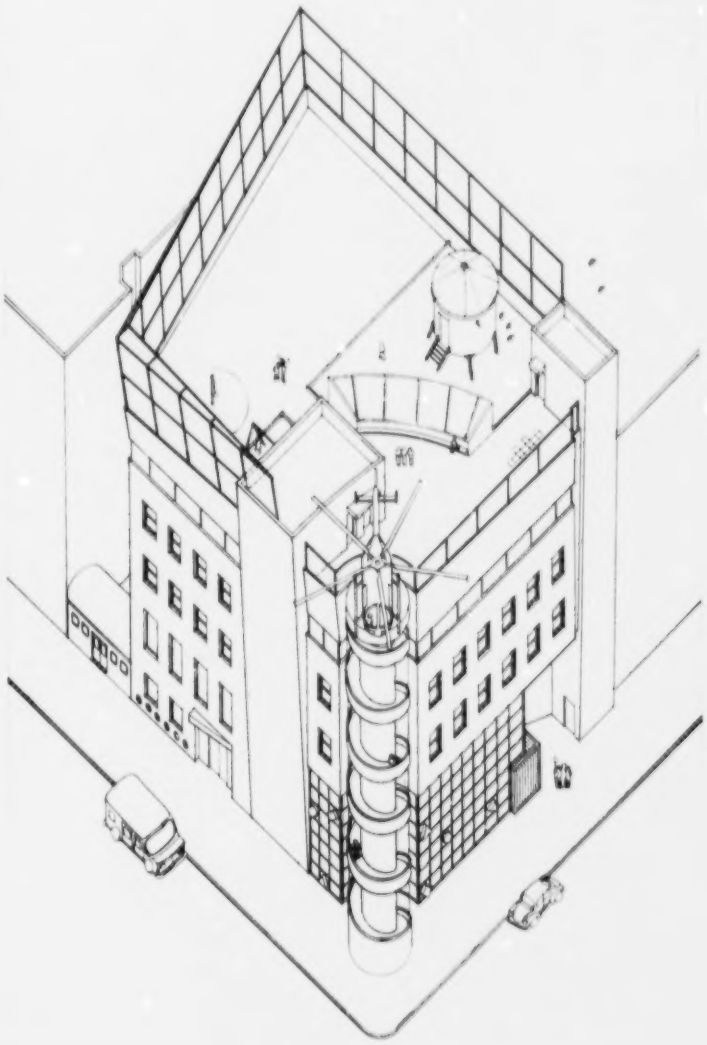


Clockwise from top left: axonometric, section, plan, and facade detail

This proposal is about being a kid. It's about goofy ideas, having fun and being expressive. While attempting to address the issues stated in the program, our basic premise was to create a place that will fire-up the imagination of a four-year-old.

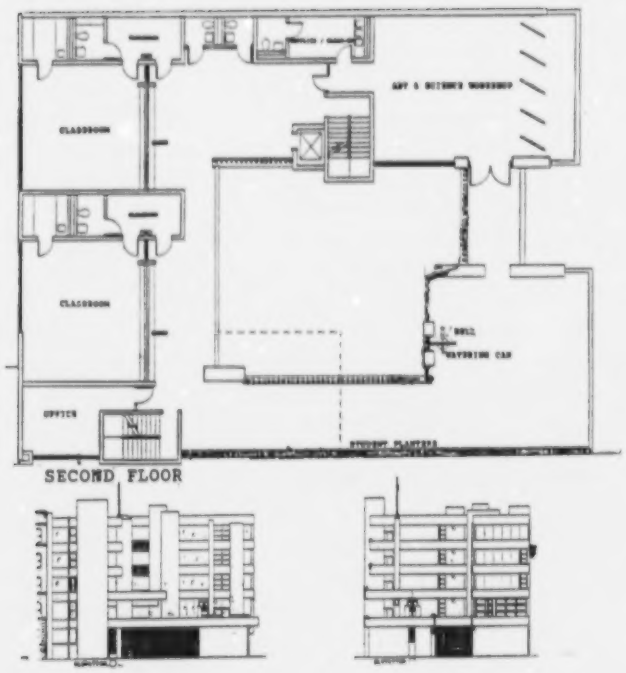
On one level this proposal tries to give the child access to everyday objects seen in the urban/industrial environment such as a subway car, helicopter, freight container, water tank. On another level this proposal makes playful gestures to its surrounding environment. At one of the sideyards the stair tower leans against the stoically symmetrical facade of the adjacent psychiatric facility. At the other sideyard the building swings back, forming a wedge of open space to allow light and air to the neighbor's airshaft and creating an outdoor play space at grade. The spiral slide is an active sign post for the school and the helicopter functions as an observatory with access from the spiral. The hilly terrain of this neighborhood gives this corner of the site a nice view to the south.

As called for in the program, this proposal accommodates infant to grade two children. An auditorium and meeting room are provided for community use. This auditorium is intended for large and small events such as lectures, meetings, movies, dances, bingo games. An infant/day-care facility is located on the first floor with the outdoor play space. The elementary school classrooms and offices are on the third and fourth levels. The fifth and roof levels which afford the best views are used for the more social activities of eating and playing.



Axonometric

120



Second floor plan and elevations

As the cool stream gushed over one hand she spelled into the other the word water, first slowly, then rapidly. I stood still, my whole attention fixed upon the motions of her fingers. I knew that "w-a-t-e-r" meant the wonderful cool something that was flowing over my hand. That living word awakened my soul, gave it light, hope, joy, set it free!

—Helen Keller

The relationship of student and teacher must not be undervalued. The place where this relationship occurs should be carefully considered. When one thinks of Helen Keller's education, what comes to mind is not an institution but a teacher and a student in a dining room, in a living room, in a tree, at a water pump.

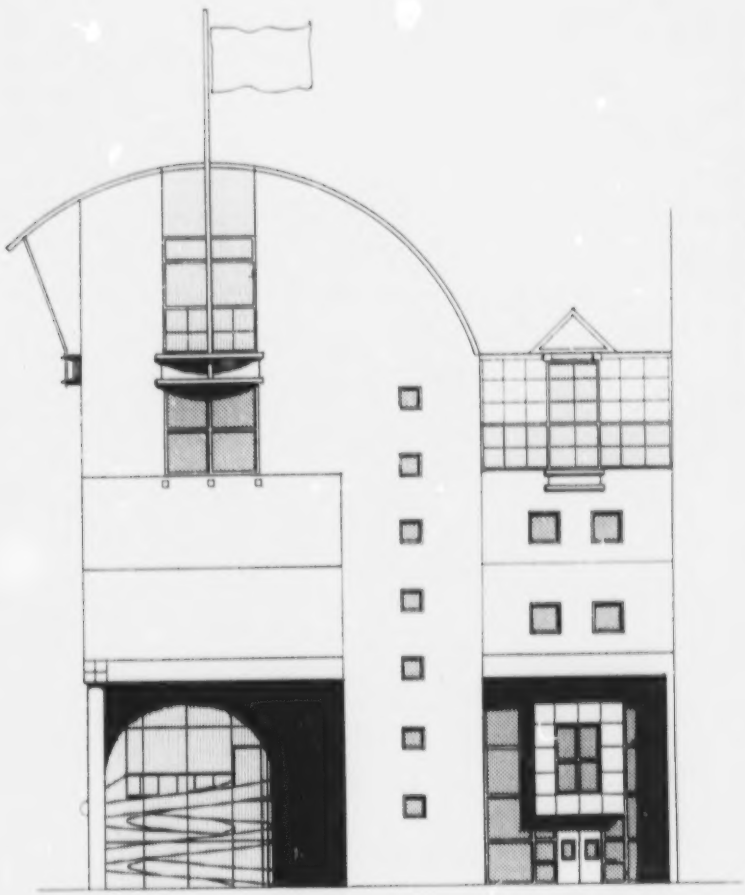
I have attempted to make the separation of "school" and "outside life" less clearly defined. Why not read on a bench outside the classroom? Why not learn about George Washington Carver while planting seeds? Painting outdoors can be exhilarating. When a science class is about weather, get out in it! Education does not end with school. It does not begin in the classroom. It is a lifelong process, and a school should feel like an integral part of it.

This project explores the possibilities of creating a small school for small children on a busy corner in a crowded urban neighborhood. Its organization is necessarily vertical and obligates the children to ascend three flights of stairs every morning to reach their classrooms. Once there, however, they are always within one floor of all academic support facilities. As required by the program, the day-care facilities are on ground level, as is the community health suite and the staff lockers.

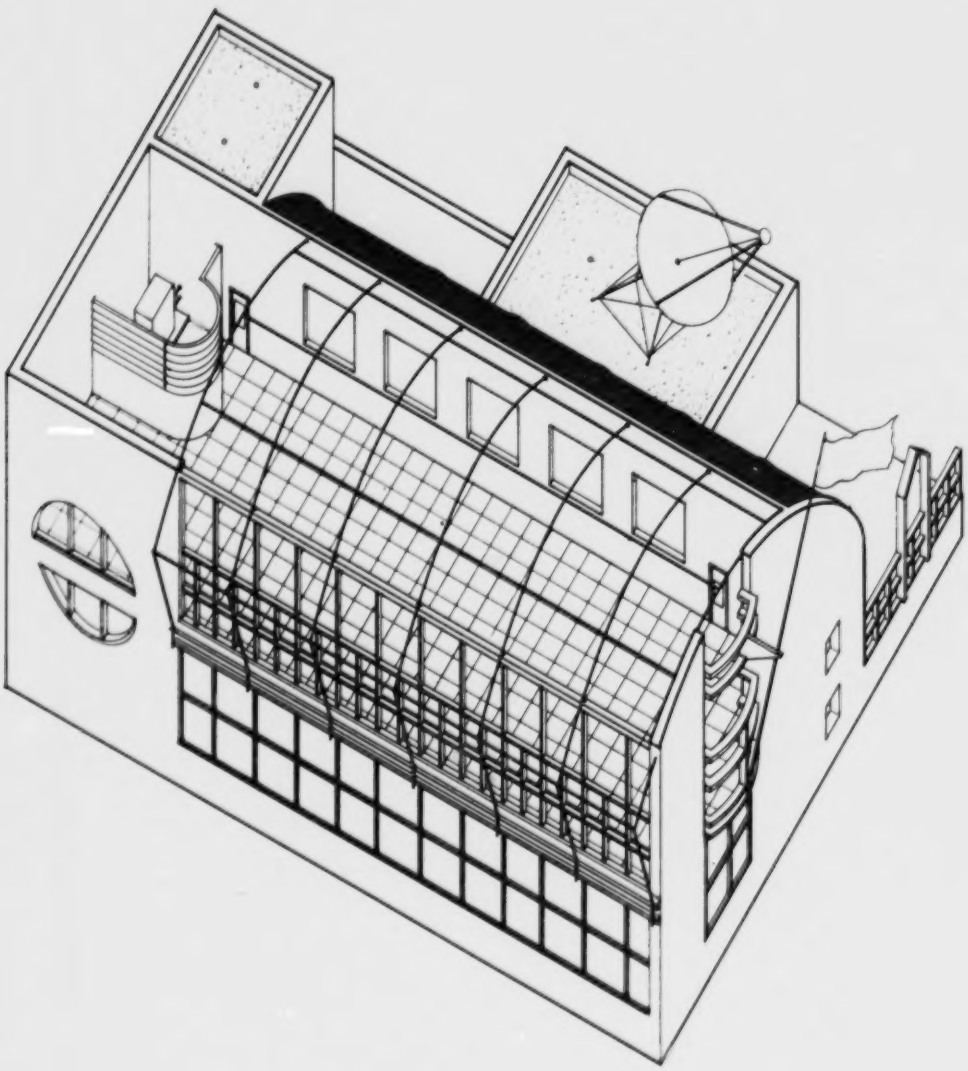
This project also maximizes certain features which urban schools frequently lack—abundant natural light and outdoor play space—and promotes community access and identification. The building is organized around a five-story skylit atrium and features a community mural wall which would be designed by artists working with local groups to create an ongoing record of community names, images and events. Access to all community facilities is provided from the main entrance and does not encroach upon school space. The rooftop play area serves the school and the open mezzanine serves the day-care center.

Richard Oja
Patricia Gill
Mario Torroella
George Metzger
Stephen Friedlaender
Suzanne Findley

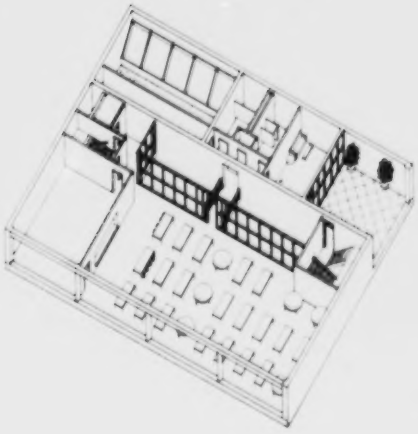
The building responds to its location at the corner of Amsterdam Avenue and West 172nd Street by giving windows to all classrooms and the cafeteria. Respectful of its immediate neighbors, the building terminates in a playful eye-brow cornice which both celebrates the freedom of the open corner and creates a vibrant image of school and community.

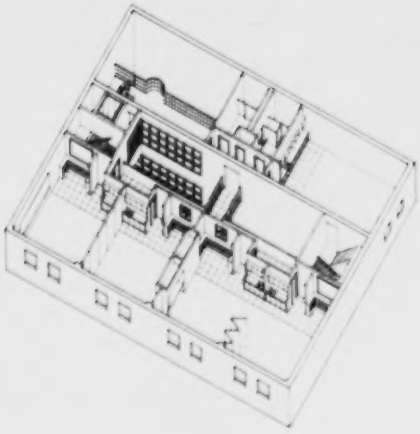


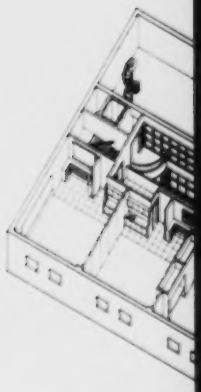
Amsterdam Avenue elevation

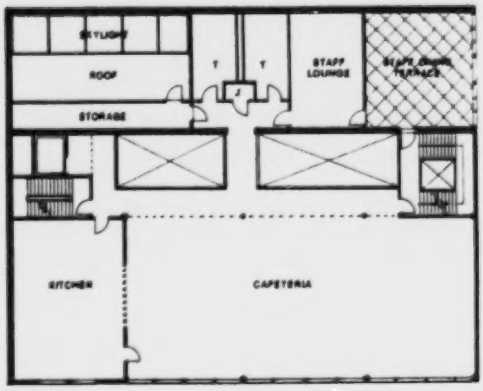


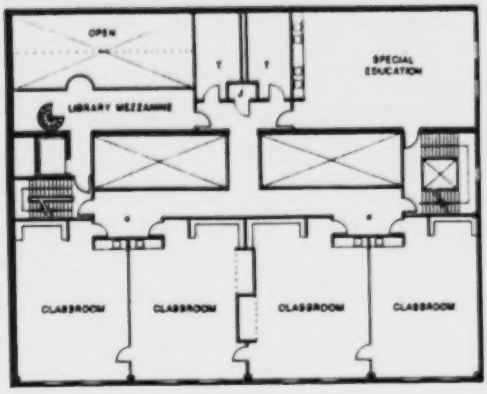
Roof axonometric

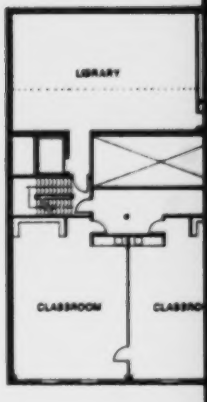




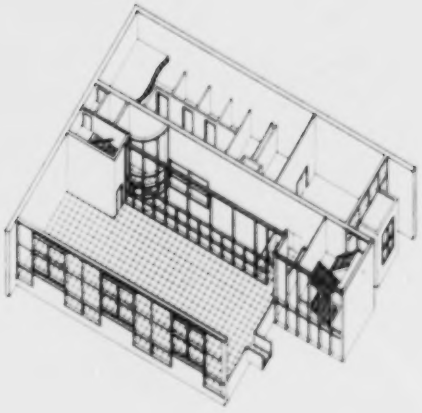


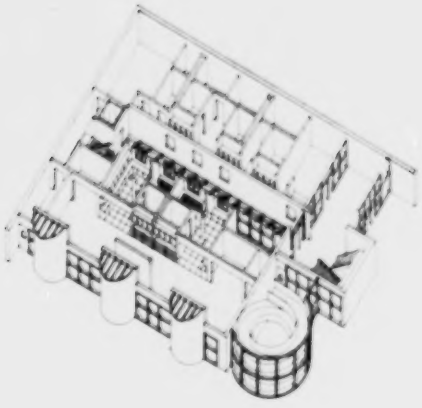


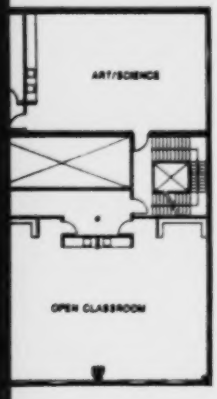


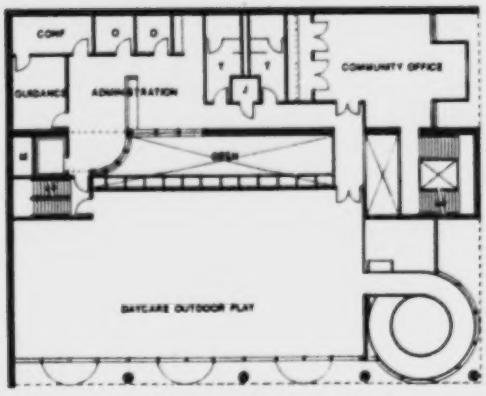


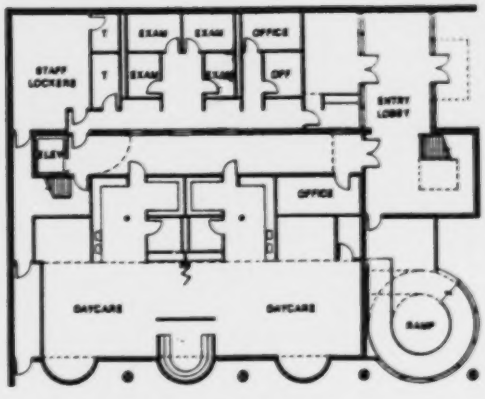
Top row from left to right: fifth, fourth, third, second, and first floor axonometrics
Bottom row from left to right: fifth, fourth, third, second, and first floor plans






ART/SCIENCE
OPEN CLASSROOM


CONF
GUIDANCE
ADMINISTRATION
COMMUNITY OFFICE
DAYCARE OUTDOOR PLAY


STAFF LOCKERS
EXAM
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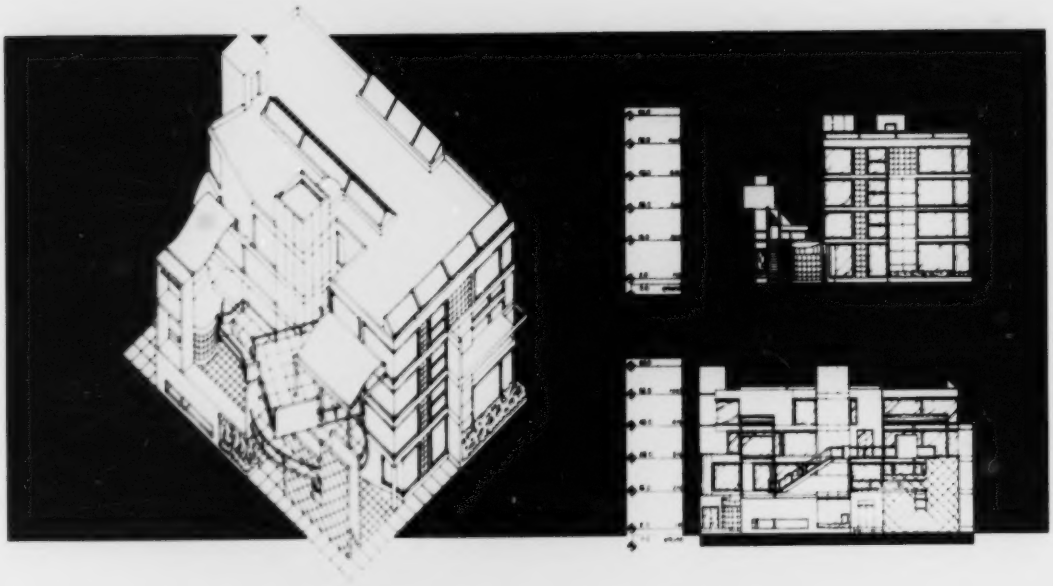
DAYCARE
DAYCARE

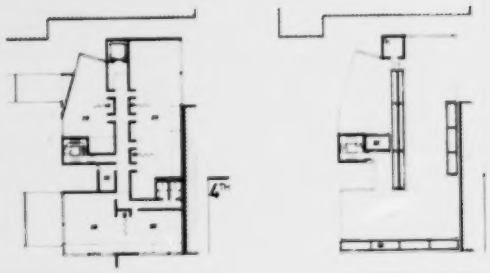


Axonometric and elevations

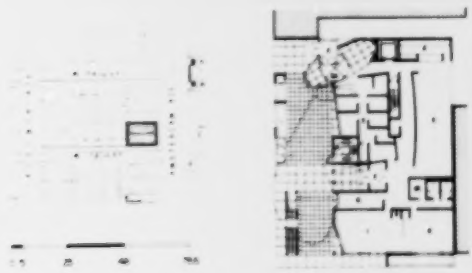
The design attempts simply to provide the spaces as required in the program, coherently and functionally.

The building has been set back from the property line on West 172nd Street to provide public/student open space, playground and perspectival vistas with access from both streets.

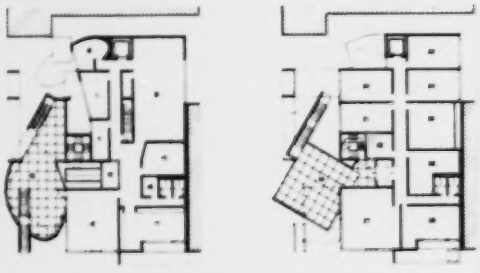
The terraces/play areas (oval, on second floor and square, on third floor) have been placed in angles, so that they may be separated functionally and visually from the bulk of the structure and to give emphasis to the importance of play in preschools and the early grades of elementary school.



Roof and fourth floor plans



Site and first floor plans



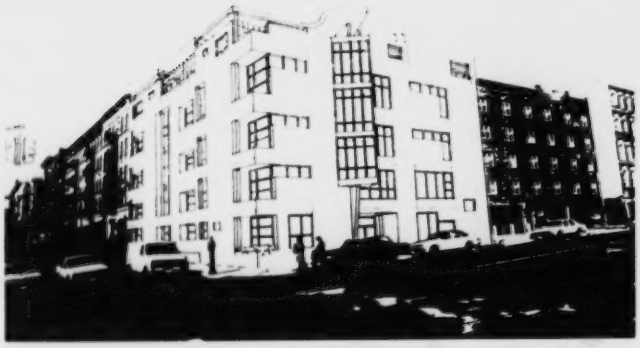
Second and third floor plans

Beyhan Karahan
Stephanie Reich

This new building provides the Washington Heights neighborhood with an elementary school and kindergarten, day-care center, health clinic and multi-purpose spaces for community use. As stated in the program, a small school for young children incorporating health care facilities may provide a supportive environment; however, the needs and abilities of infants of 2 months old to 3 years old may create a conflict of needs.

In order to address this concern, two schemes are provided for the -5 and -10 foot levels. Scheme one includes a large meeting room visible from the street to accommodate the whole school or larger community groups. Scheme two delineates two infant care classrooms at the -5 level. Both schemes provide a lunch/multipurpose room accessible from the ground floor by a ramp for lunch, indoor play or meetings.

Day-care classrooms are located at the +5 level also accessible by a ramp from the entry. The ramp terminates at the main level of the elementary school and the library. An open stair connects the classrooms and offices to this level. This stair continues to the roof garden, which is covered with a protective screen for supervised outdoor play. The health clinic is placed at the sidewalk level with a separate entry.

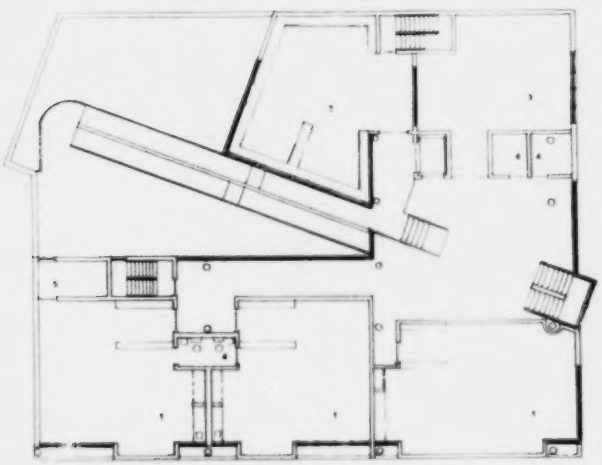


Perspective

The arrangement of levels allows portions of the school to be closed off for day and night time scheduling of different activities. By combining a variety of services needed by the community with a school of manageable size, a healthy and supportive environment is created for the small children and families of the neighborhood.

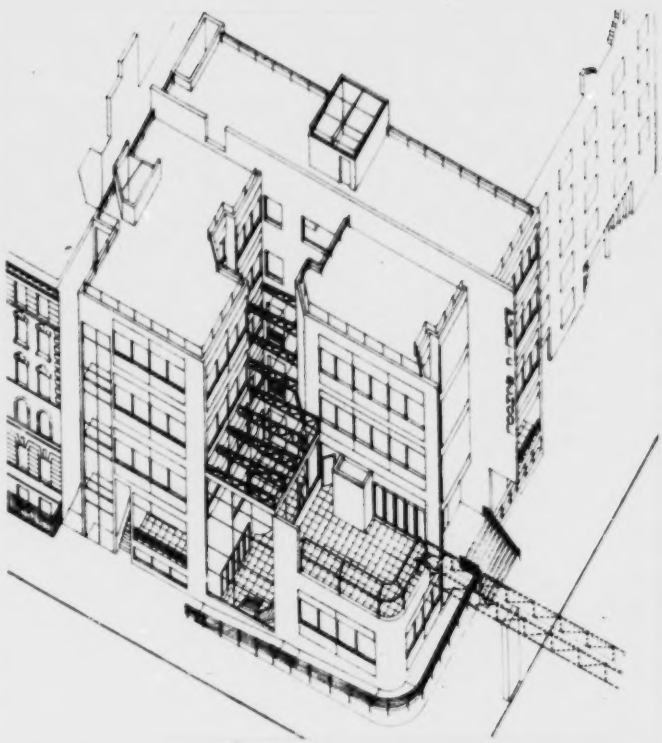
Classroom

All classrooms are designed with a sink, storage and small cubbies for each child. A toilet is shared between two classrooms. The south classrooms have recessed openings while the east rooms incorporate a clerestory window. The arrangement of wall space allows for open classroom and/or conventional classroom seating for the children.



+10 and +15 plan
1. Classroom
2. Library
3. Office/Teachers resource room
4. Toilets
5. Audio/visual storage

This scheme is based on an extension of the urban fabric typical of old residential areas in New York City such as Washington Heights. The distinction in form between buildings facing avenues and buildings facing sidestreets is used to formally structure the project. Offices, some meeting rooms, major stair access, and services are located behind a wall that reinstates the typical east-west lot division. Classrooms, a day-care center, and a clinic are located in wings off the main wall. The main meeting hall is located at the site corner and can be converted into an extension of the interior play space between the kindergarten and day-care area at the lower level. This meeting hall and/or the classrooms will be used as lunchroom space.



Axonometric

The convoluted walls create "eccentric" spaces which may inspire or allow the inhabitants of the building to find new uses for these areas. This notion of eccentric space or architectonic shift was discussed by the architect Herman Hertzberger in relation to his own school designs in his lecture to League participants in the New Schools study project. The convoluted wall is transformed in different ways to solve purely formal problems. At the library the motif becomes a skylight. At the interior court it becomes the positive/negative element relating two wings of the building. At the Amsterdam Avenue side of the building it becomes an entry gesture. This scheme both opens up the westernmost classroom area to views of the park and maximizes the exposure of the building envelope to southern sun.

CONSTRUCTION: Non-combustible cast-in-place concrete flat slab and piers with colored porcelain on steel infill panels.

MECHANICAL: Conventional oil or gas-fired system, multi-zoned, feeding ceiling air diffusers. Equipment on roof and sub-basement (not shown).

The School
An indoor garden/playhouse

The Space
Defined by a structural frame
based on 27' x 27' x 12' classroom module

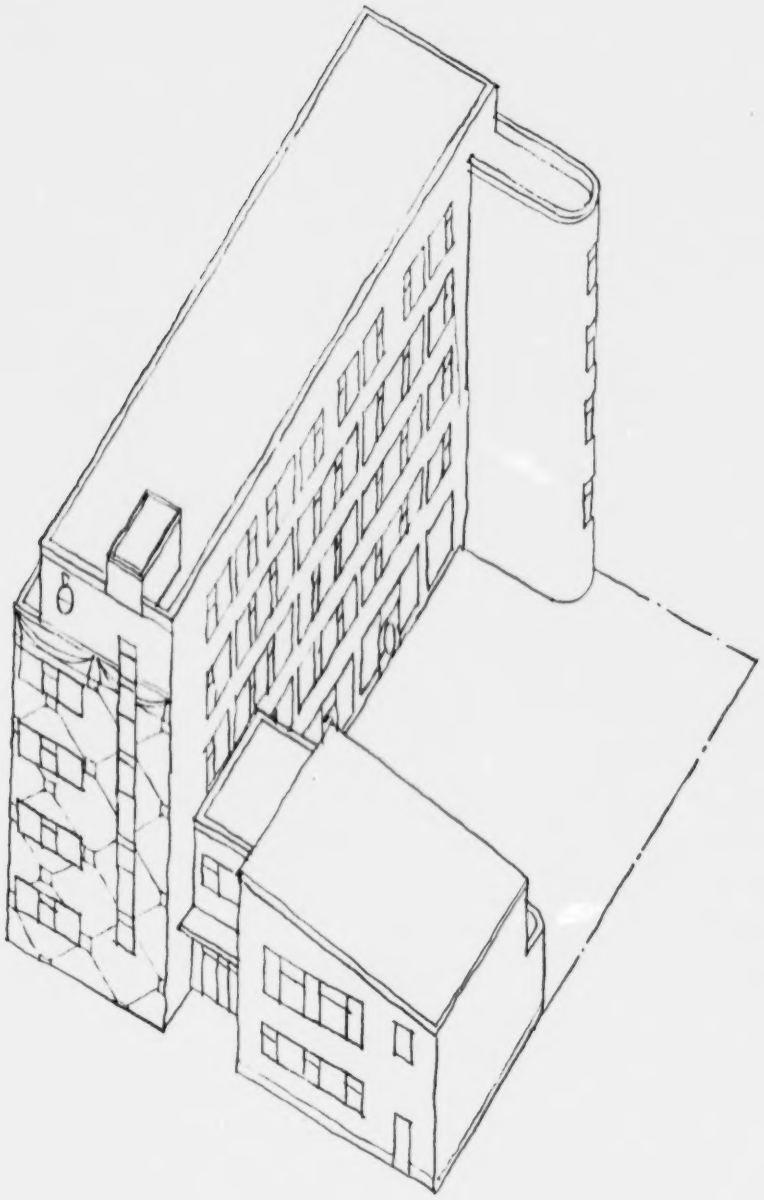
Elements
Float within frame
ground and interstitial space as garden

Structure
Steel frame on-site
shop-made molded plastic elements
masonry service and elevator tower

ivy = good education
Lots of Ivy! Yeah! Yeah! Yeah!
Up in the clouds
Who cares about architecture anyway?
Turn on the music
and Let's Salsa!

—Jack and the Sisters of Salsa

Perspective of indoor garden/playhouse

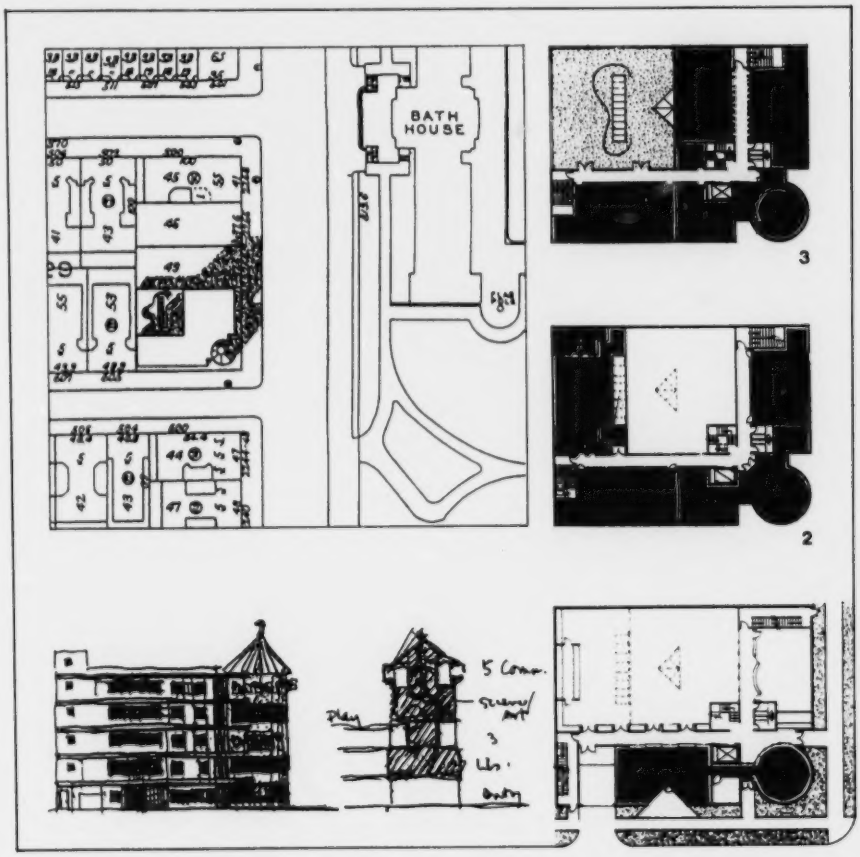


Axonometric

Washington Heights is a community in transition. Suspended between the affluent homes bordering the Cloisters and the northernmost reaches of Harlem, it is an area straining to assimilate its burgeoning population and create its own identity. This new school, and indeed the whole program of small community schools, will be a magnet for vitally important local facilities. The issues which are addressed architecturally in our project mirror the many levels necessary to lay the groundwork for positive community growth.

The nature of any community in flux is change. The key, then, is flexibility. The classrooms are situated to open both to each other and to the indoor and outdoor play areas. The art and science areas are double height to engage the waiting area for the health clinic and pull in natural light from the oculus.

A corner tower visually anchors this school to the site. From this tower radiate the wings of the community and educational facilities. These wings embrace the internal communal facilities, auditorium, lunchroom and teacher's lounge area all under the rooftop outdoor play area. The tower becomes the creative heart of the project. It contains the art room, science room, and library reading areas. Its exterior fenestration articulates a sense of excitement at what is happening within yet attempts to be playful and fun in its vocabulary because above all this is a school for the very young and for those new to the community. The day-care center is the base of the tower as it expresses hope for the future.



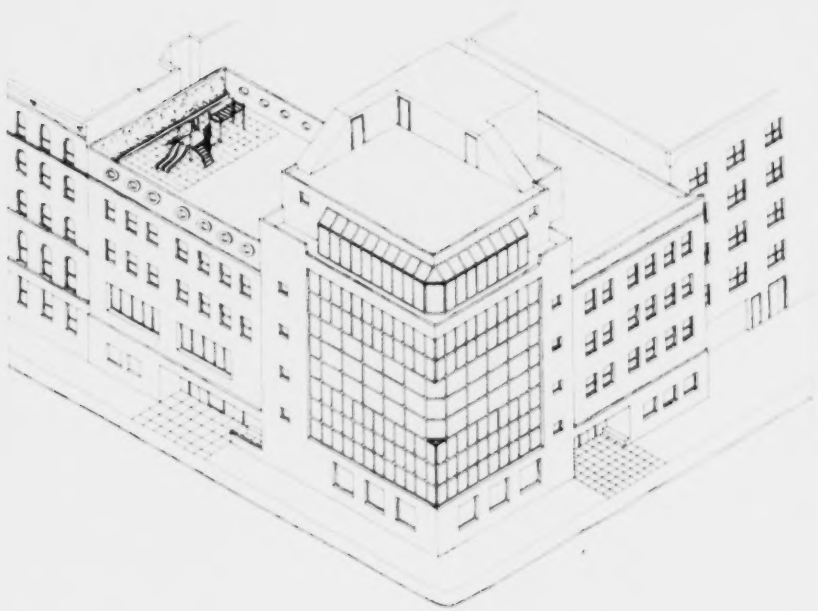
Clockwise from top left: site plan, third floor plan, second floor plan, first floor plan, and elevations

This project is the exploration of a prototype: a mixed-use early childhood center on a corner site which could serve literally and conceptually as a focal point in the community. The project program could be any combination of child-oriented community facilities, in this case, a day-care center, health clinic, and elementary school.

Although different facilities share the first two floors, the corner accommodates two entries with a hierarchy of importance derived from the character of the streets. The school is entered from the avenue; the other facilities are entered from the residential street. The day-care center occupies a portion of the ground floor and is organized around a play courtyard. A designated elevator takes the public to the health clinic directly above. If the corner site emphasizes the building's importance, the design reinforces the idea. Two stair towers define the corner. The exterior wall is glass, distinguishing this institution from its residential neighbors. The school's major program elements occupy the corner spaces, with internal circulation organized around them. A stacked lunch room and special purpose classroom extend beyond the roofline of neighboring structures. At night, when the double-height indoor play area is used as a community meeting room, the emanating light symbolizes the importance of learning.

A one-story masonry base supports two "wings," which contain the repetitive program elements: the classrooms. While the corner, or "tower" will always be the same, these wings can be adapted to other sites by changes of proportion, material, and fenestration.

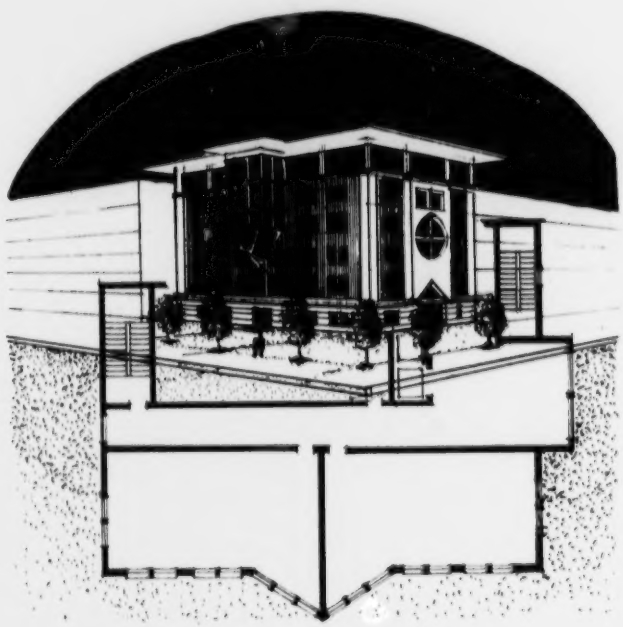
Use of the corner to organize the building's program and derive its image affords the flexibility to accommodate asymmetrical conditions and varied functions; this could prove useful in the selection of future sites.



Axonometric

The small site at the northwest corner of West 172 Street and Amsterdam Avenue allows for the most basic disposition of program elements. A double-loaded corridor runs the length of the site with vertical circulation at both ends. Three entrances encourage free circulation at grade level. Tightly grouping the service stairs, elevators, rest rooms, and lobbies—allows flexible planning for the remaining building. The building pulls away from the walls of its neighbors, allowing light into the rooms on the north and west sides, and creating a small outdoor play area at grade level. The box-like massing of the building ensures maximum utilization of square footage. Pre-cast concrete panels inlaid with variegated glazed tile will adorn a basic structural frame.

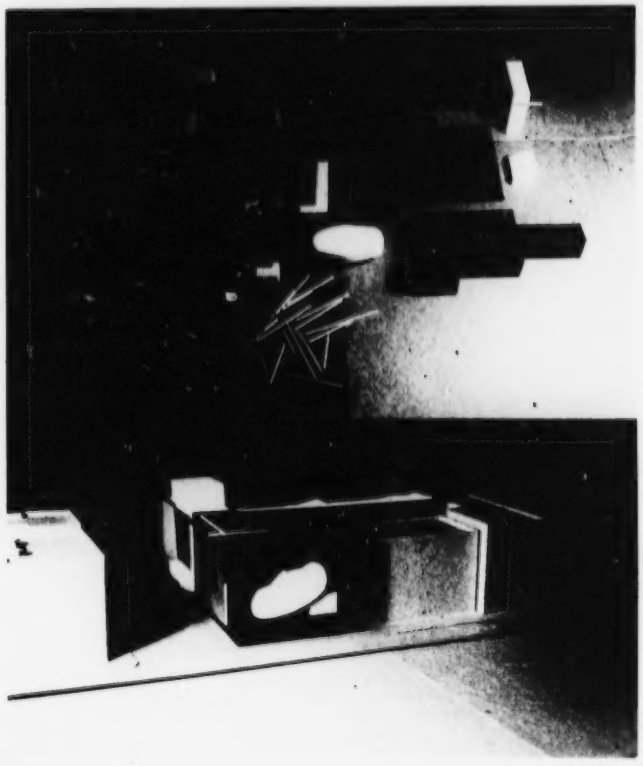
On the West 172nd Street facade a glass construction cuts into the building mass, inflecting towards the sun light on that south side, and symbolizing the natural growth of young minds being cultivated within. The construction expresses the distinction between regular and irregular spaces as a metaphor for two types of learning processes: the hard, through books and objective standards; and the soft, through freedom to make mistakes and creatively interact and explore new ideas. The glazed areas signify the soft approach finding expression in the library on level 5, and on level 6 in the flexible indoor play and meeting room areas.



Composite drawing with perspective view and plan

Solution

This project is a study of support systems both material and metaphysical. Unstable pieces of the program "lean on" each other to make a structurally sound synergetic school. Like a child's basic building blocks, the various programmatic elements of the "building" are piled one upon the other for stability and connection. If one block falls, the whole system remains in an insecure state. Similarly, the blocks each hold one interdependent element of the community, such as: health care, day-care, family (parent's room), administration, teachers' rooms and classrooms. With this system expansion and flexibility are achieved by piling up more blocks and shelves as necessary. Recreational space is interwoven with study and work space for emotional support. Finally, the school is not merely about these blocks but also explores *ma* (Japanese for "the space-in-between") created by their interlocking relationships.



Views of model

Donna Selene Seftel
Peter Shinoda
Tim Schollaert
Steven Moon

The school is organized around a central square courtyard with a ramp, which is a safety net, pick-up-stick playground for the day-care toddlers and which will bring light into the site. All blocks sit balanced on a concrete foundation wall which contains the public entry and lobby spaces.

A large glass auditorium box rests at the back of the site but is adjacent to the courtyard and can variously function as a gymnasium, a public meeting room, and an even larger room open to the outdoors. Behind it in the existing courtyard of the adjacent buildings are two meeting rooms for 25 people each which can also be connected.

A masonry slab on the street side houses the administrative offices, "open book" library, and teachers' rooms. This slab sits on the ground and laps over the art and science laboratory which opens on to the roof of the auditorium, now becoming an outdoor shelf for experiments, sculpture making or play.

On the avenue side is the steel health care center. Cradled between this and the administrative slab is the "watchful eye" day-care center. It is a soft egg-shaped space for infant play and a glass eye looking out to the park. The parents' room is the keystone between healthcare and school.

The classrooms are on shelves that float out into the back courtyard on tall columns like a treehouse. It is a "Maison Domino," as each classroom is a domino-like box with a hinged panel inside to subdivide the space and make spaces small enough for just 12 pupils. The boxes can also be attached to enlarge the size of the classrooms. The small cubes are bathrooms, storage, and teachers' rooms. The leftover shelf spaces are outdoor play platforms.

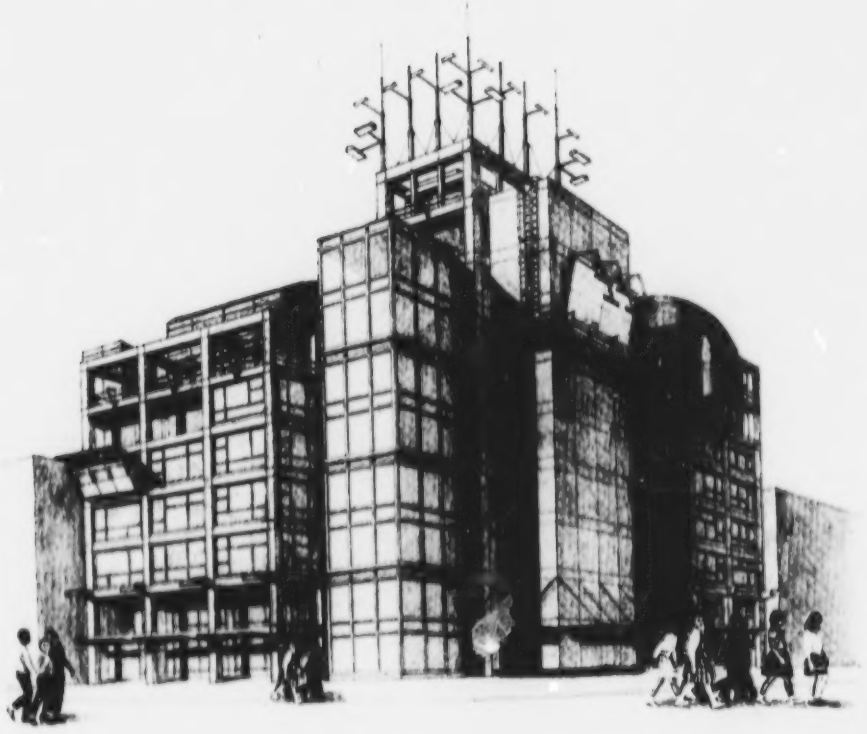
The "Joe Clark isolation room" hangs out of the cubic void, hovering above the courtyard.

This is a building that would belong to the community. It houses a school, health and day-care facilities, community rooms, and an apartment for two young teachers.

The massing is not overwhelming. While it tries to blend in to the surroundings, it distinguishes itself from the predominantly residential area.

This building tries to promote communal interaction around its immediate area, along with a sense of pride, focus, and the importance of culture.

Axonometric



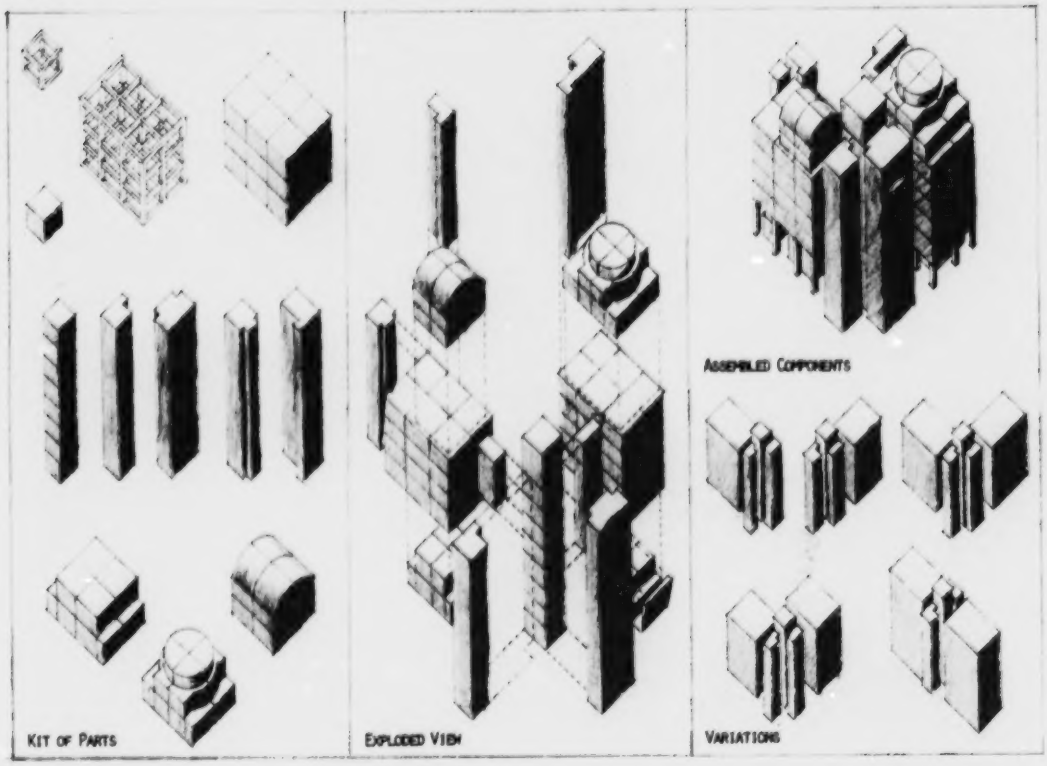
View from southeast

A school is a child's city comprised of cultural, creative, and academic experiences. The city's meaning is articulated through fantasies, visions, and discoveries of the child. This design study proposes tangible architectural ideas responsive to evolving theories of education. The architecture should be viewed as prototypical in process and capable of adapting to various urban sites and programs.

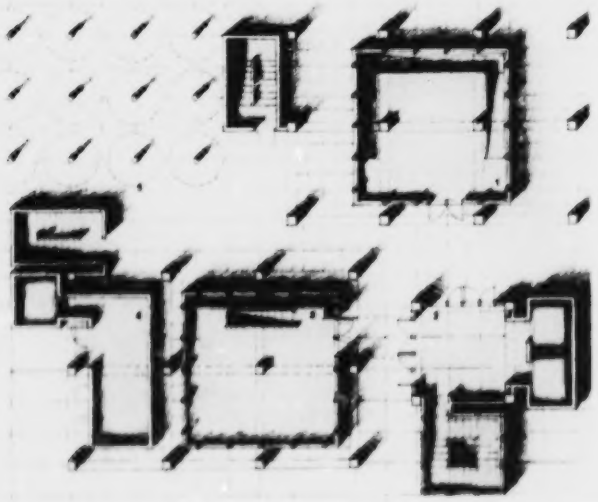
The proposal is analogous to children's building blocks in that form and composition are achieved through personal explorations and inventions. A kit of elements is provided, with potential assembly and organization diagrams. The possibilities are limitless, allowing for continued expressions based on site, program, and individual desire.

One possibility, as explored in this study, is to create a miniaturized city (or a city within a city) composed of diverse and discrete vertically organized buildings. The use of separate forms allows for maximum open space, light, and air, as well as creating an intimate scale for the child.

The construction method for the school consists of two types of components. First, a concrete frame is assembled in configurations responsive to specific sites. Second, interchangeable infill elements of light-weight materials (steel, aluminum, and glass) are affixed to and inserted within the frame. The infill elements exist as discrete forms, expressive of their function and time in place. The temporal quality of the infill elements enables the architecture to respond to unknowns and uncertainties in education.



ASSEMBLAGE



Assemblage (top) and first floor plan (left)

PROSPECT HEIGHTS

PROSPECT HEIGHTS

SITE

Prospect Heights High School is a large comprehensive high school that currently serves approximately 2,100 students. It is located on Classon Avenue across from Prospect Park and the Brooklyn Botanical Garden, one block from the Brooklyn Museum. Built in 1924, PHHS has never been renovated or significantly modified and is now in very deteriorated condition.

To grapple with a very transient student population, high drop-out rate, and low achievement scores, principal Jerry Cioffi plans to implement a "house plan" and to reduce the overall size of the school in order to build relationships between students and teachers and escape the anonymity of a large school. Core administrative and academic facilities will serve the entire school, while the academies will offer specialized education in business skills, culinary arts, human services, and an honors academic program. Each of the houses will have a student body of about 500 ninth to twelfth

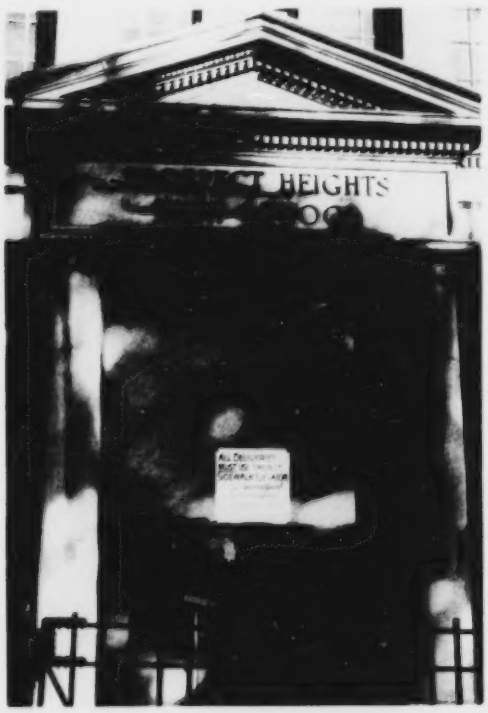
TASK

DIVIDE A LARGE HIGH SCHOOL INTO FOUR DISTINCT "ACADEMIES."

ARCHITECTURAL PROGRAM

The architectural challenge for this site is to give physical form to the separate identities of the four autonomous academies. The principal asked that each academy have its own entrance and self-contained circulation pattern in order to reinforce its separate identity and function. Architects could choose to design a new building for the culinary arts academy, rather than locating it in the existing building. The large existing gymnasium will be used by all four academies. In addition to its basic function as a high school, Prospect Heights is used for adult education classes and by community groups.

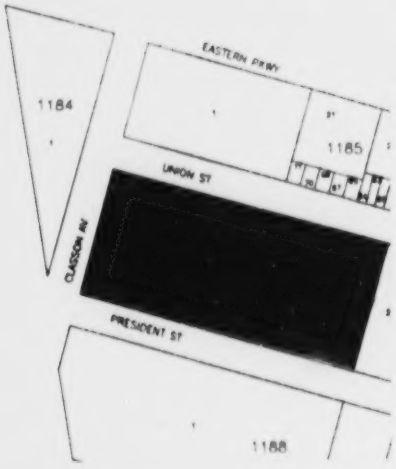
The use of house plans is a growing trend in New York City high schools. The degree of success of this approach—of dividing large schools into small schools which can truly function as separate communities—will depend on the creation not only of appropriate programs for these schools, but on the successful physical representation of their separate identities.



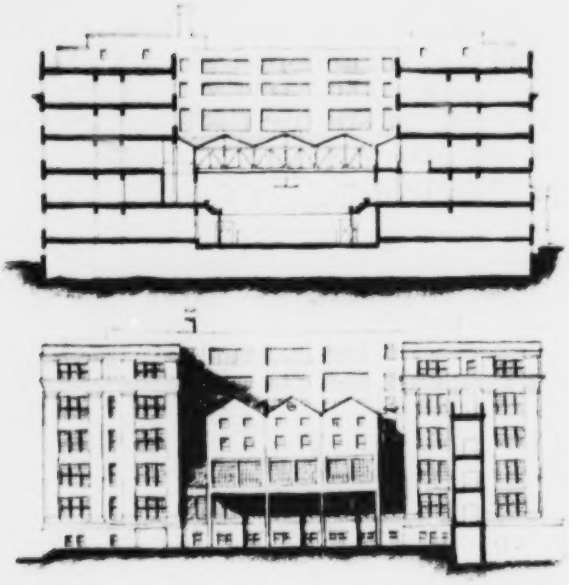
Main entrance to Prospect Heights High School

Prospect Heights High School, Brooklyn

Site locator

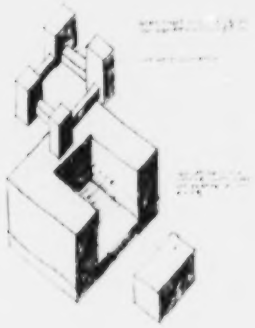


Site plan

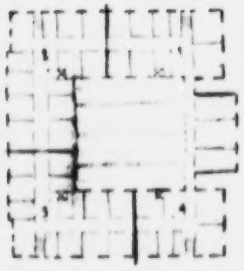


EXISTING CONDITION: double-loaded corridor functions as only shared space; potential link between the two arms of the U occurs only on ground floor. PROPOSED ADAPTATION: circulation circuit completed, engaging separate sub-school cores; new program elements (day-care, dining, learning center) create a face towards the high school fields and the neighborhood to the south.

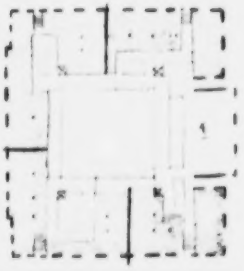
Arthur Platt
Parinaz Ziai
Vivian Wang
Robin Auchincloss



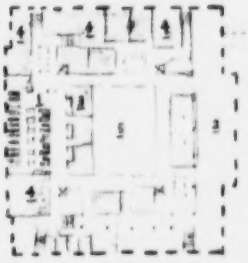
Section and elevation (far left) and axonometric (left)



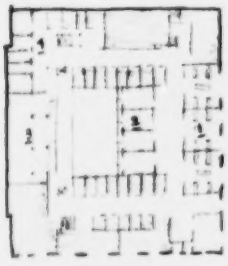
Fourth and Fifth Floors
Classrooms for separate schools
1. Human services academy
2. Honors
3. Business academy
4. Culinary arts



Third Floor
Sub-school administration with separate circulation cores overlooking "ringstrasse" below
1. Tutoring and special education



Second Floor
Major shared spaces located around double-height "ringstrasse"
1. Library
2. Cafeteria
3. Audio/visual
4. Academic core classrooms
5. Theater reduced in size



Basement
1. Kitchen and labs
2. Culinary classrooms
3. Mechanical
4. Custodial

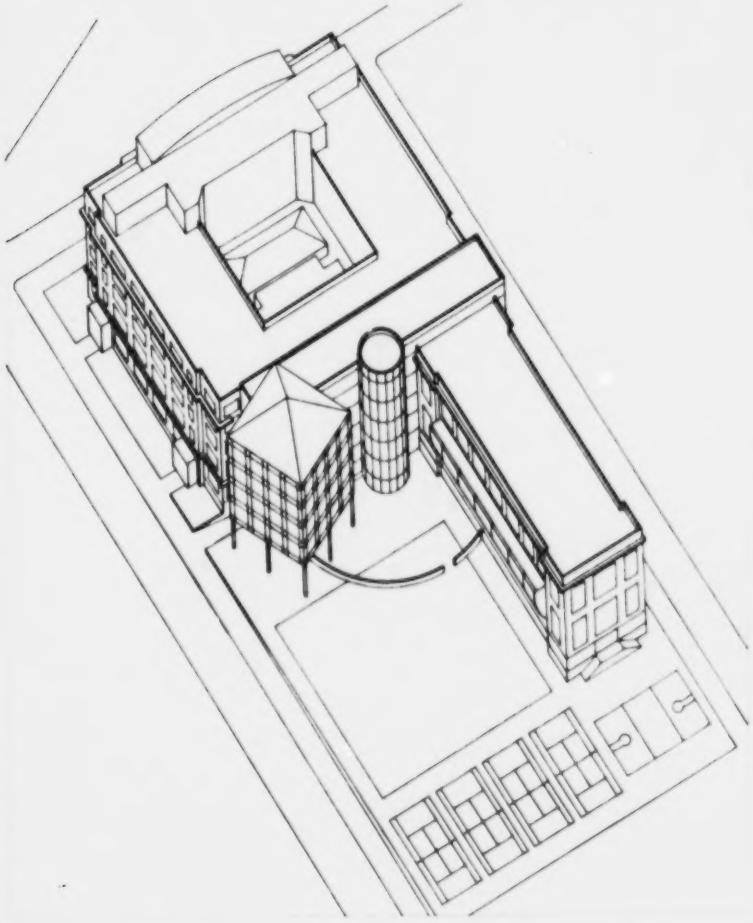
Bennett Fradkin
Jan Pietrzak
Ingrid Hustvedt
With Jan Gorlach

Less formal, more playful and human, the addition engages in a dialogue with the old school, a solid structure with a strong presence in the community. The elements of the addition, which is to be situated behind the existing structure, include the following: A *spine*. The spine closes the U on each floor and creates both a continuous loop and a horizontal, single level division for each house. A *new entrance*. This is a continuation of the street and the community's access to the building. A *cylinder* or "vertical street" for accessing each house. A *cube* containing new classroom spaces for each house.

Additional features include: new bleachers protruding from the gymnasium, a penthouse with special classrooms for the honors academy, meeting rooms, loading docks, a kitchen serving all houses, backstage facilities and support services in the basement. The auditorium is preserved for community use.

The addition builds on existing formal, historical, and contextual relationships between PHHS, the park, and the Brooklyn Museum. Incorporating new thinking about schools, the spine gives the old building a new focus. The spine brings the community into the school and allows access to its five houses as well as to its shared components—the gymnasium, auditorium, and outdoor areas. The building's horizontal division gives each house an equal relationship to these shared components. The loop configuration provides flexible internal circulation, and allows each house to experience elements of new and old.

As the concept of school changes, so does the concept of architecture: Built forms should reflect social ideals. Adapting an old building allows a rich physical environment to foster new educational ideas and provide a focal point for community life.



Axonometric

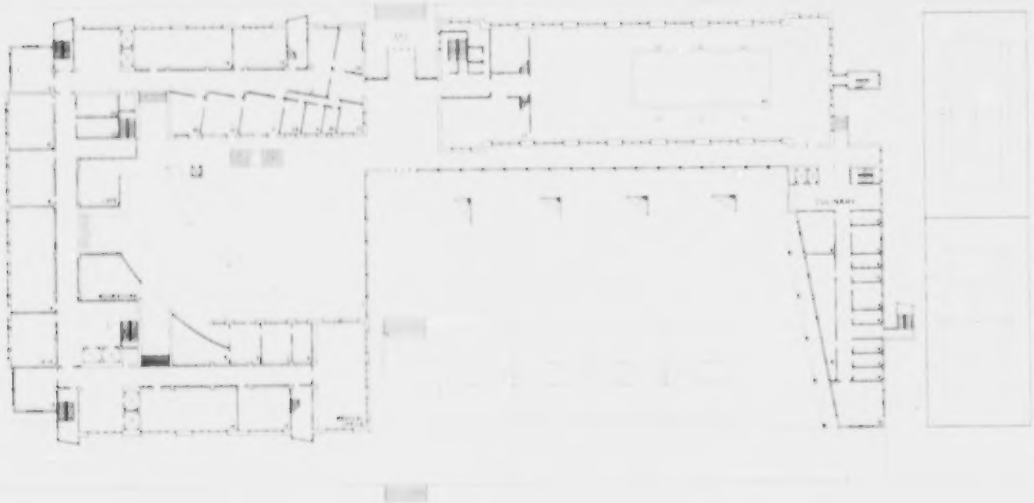
DEAMER + PHILLIPS

The initial directive to divide this large U-shaped high school into four smaller academies necessitates in turn the need to bind these separate entities back together. Like a city made up of individual homes, institutions, and commercial enterprises that are ultimately bound together and given civic identity by the public spaces, this high school relies on its "public" indoor court to provide the corresponding matrix. The programs of the academies—business, culinary, human services, and honors—lend themselves to this civic

Peggy Deamer
Scott Phillips
Amy Routman
William Yoon

the program of the specific academy to which they are linked. Above this level, the identities of each academy remain distinct; this is indicated on the exterior by the rebuilding of the "knuckles" that separate each wing.

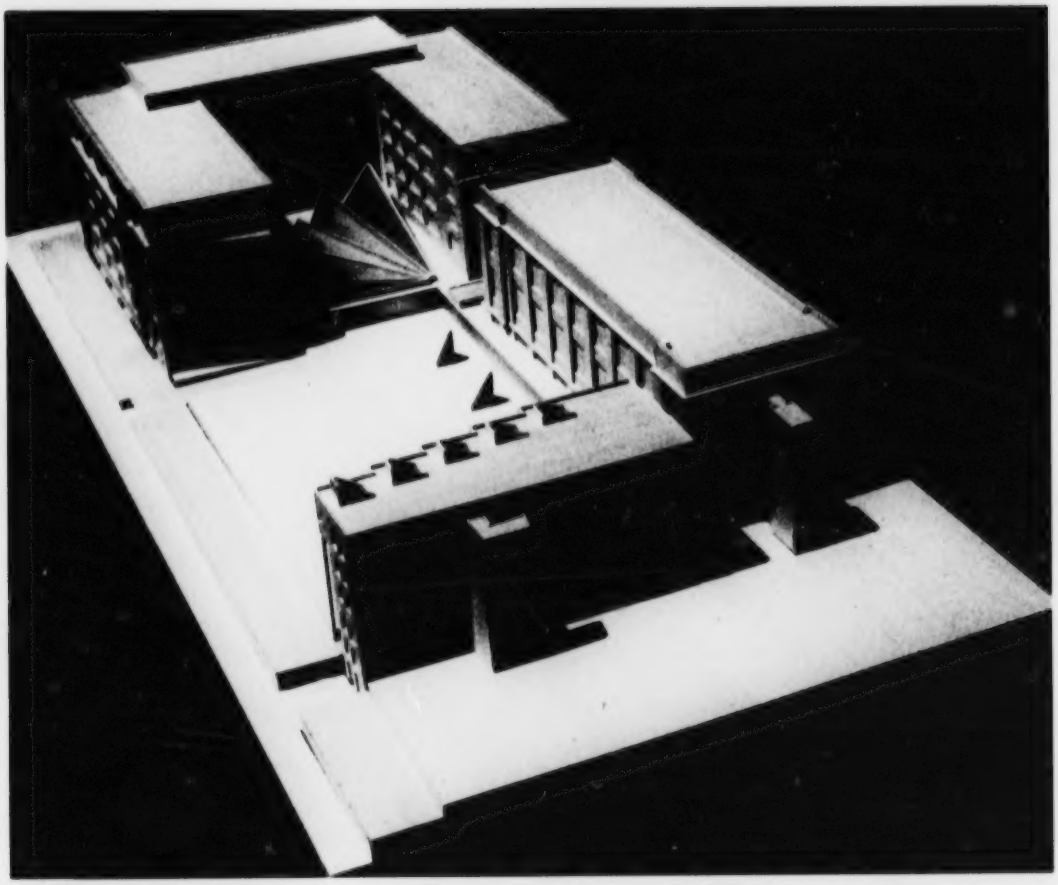
The fourth and newly constructed academy makes a larger court that extends beyond the boundaries of the indoor plaza. This outdoor space, currently unused and residual, is animated by the surround-



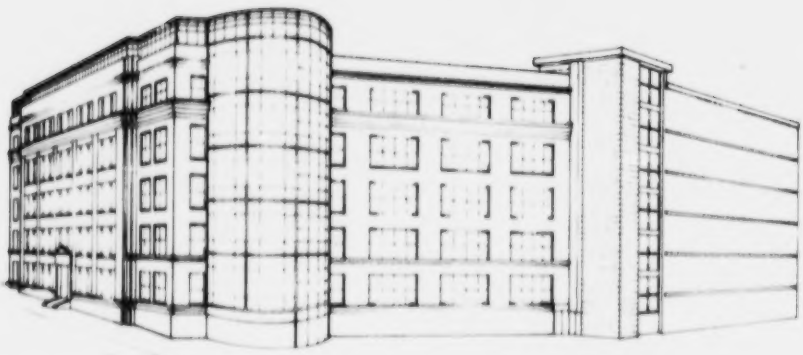
First floor plan (above) and fifth floor plan (right)

analogy in as much as they both simulate the cultural functions of urban life and provide, within the institution itself, specific community services. Thus, all of the functions that open onto the indoor court are those that serve the general institution and the community at large. On the court level, beyond these "cultural" functions, are the separate entries to and the administrative offices for the three academies housed in the original building. These both support the general institution and identify

ing circulation. And while spatially more contained, it makes a positive gesture to the community with which it is engaged.



Model (top) and section looking north



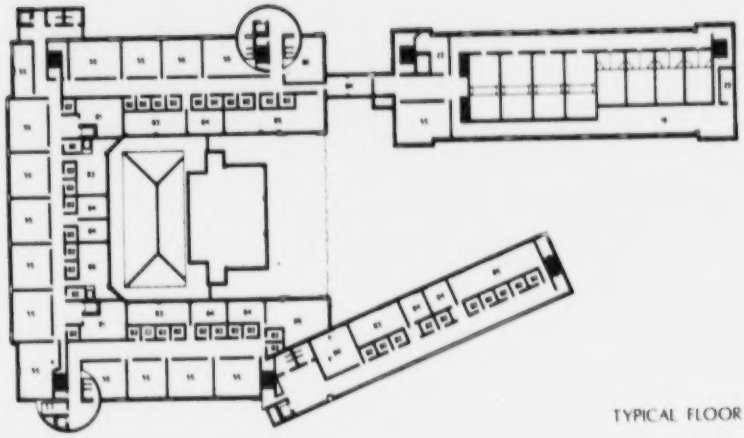
Perspective

This proposal addresses themes of identity and community within the context of a four-house high school. Two schemes of organization are employed:

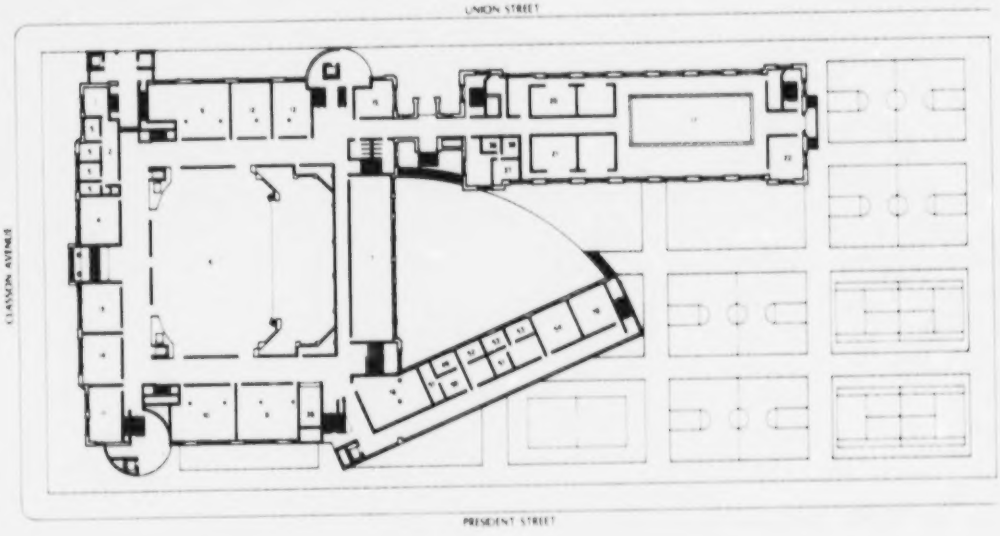
1. Vertical or sectional organization which distinguishes community and shared facilities from those specific to each academy. All school-wide, night school and community facilities are located on the cellar and first floor. The day-care center occupies the second floor to take advantage of a roof-top play area.

2. Horizontal or plan organization separating and giving independence to the four academies. The ideal expression of this organization is a square in which each academy occupies one side. In this U-shaped building the three wings are designated thus: north—human services academy, west—honors academy, south—business academy. The missing wing is provided by the construction of a new culinary arts academy. One can imagine that this side of the square has been rotated out to address Washington Avenue. With this gesture a dining terrace is carved out at cellar/grade level and the existing cellar is reclaimed as a cafeteria shared by all academies.

Additional new construction provides greenhouses and classrooms for the Honors Academy at the penthouse level. Architectural attention has been focused on the entries and circulation cores of each academy. Existing stairs are reused but new elevators and toilets are provided for each house. These cores become recognizable exterior elements, signaling the separate entries and giving each academy an identifiable communal space filled with light and encouraging social interaction.



TYPICAL FLOOR



Typical and first floor plans

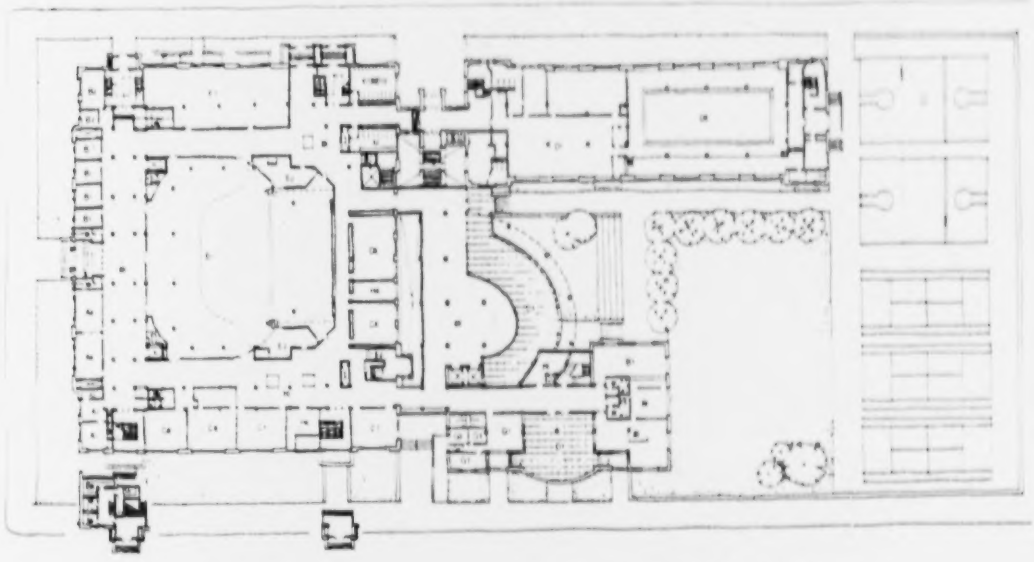
Chau-Fan Ou
Lee Boyes
Jyh-Meei Jong

The purpose of the design is to divide the existing Prospect Heights High School into four "houses" to help more children succeed.

Proposed additions and alterations offer two primary entrances. The first is the restored existing entrance located on Classon Avenue. Visitors to the administrative core for the four academies and to the auditorium will use this entry, designed to relate to the formal context of the Brooklyn Museum, the Brooklyn Botanical Gardens, and Eastern Parkway. The second entrance, created between the existing structure and the new addition, is more community oriented and scaled to the pedestrian. It provides direct access to the hearts of the academies, the restaurant, the day-care center, and the school store.

The four academies are divided horizontally. They share the existing building and the addition. The addition houses a cafeteria, faculty offices and activity rooms for each school. Vertical interaction occurs between each house's library, faculty offices, and cafeteria service elements.

The addition is sited so that the existing underutilized basement receives natural light via a new atrium, thus becoming an active space shared by all members of the school. A curved form between the addition and the existing grassy play areas facilitates a softer transition from the rectilinear mass of the indoor academic rooms. This area is used for gathering spaces such as cafeterias, an outdoor terrace, and the day-care play area/after-school amphitheater.



Perspective (top) and first floor plan

BUILDING AND LEARNING

BUILDING AND LEARNING

Anne Rieselbach

Historically, the school building has been the vessel of hope for the future. When the Architectural League set out to study the architectural, social, and educational programs that shape our schools today, it was with an eye to tomorrow—to examine how we have used and how we might better use these buildings that have the potential not only to educate the young, but to serve a wide sector of society. One important way to understand the form of today's buildings is to look back at the often ambitious aims of the designers of New York City's schools.

At the outset of the New Schools for New York design study project the Architectural League presented "Building and Learning," a small exhibition illustrating a cross-section of the city's public schools of the past 150 years in order to introduce design study participants to some of the physical and educational concerns that have influenced public school design. The second section of the exhibition, displayed concurrently with the new designs produced for New Schools for New York, featured some of the city's independent schools. Their buildings provide a parallel history that offers an opportunity to see how these institutions shaped buildings to express and serve educational philosophies often quite different from those that guided the program of the public schools.

Of particular interest for the purposes of the New Schools for New York design study was the comparison of different building strategies that reflected attitudes about plan flexibility and building scale. Where the public system sought new, often large, buildings, independent schools frequently adapted existing structures. Admittedly there are profound differences between the city's public school system (with its total enrollment equivalent to the population of a good-sized city) and the independent schools, each functioning as a totally separate unit. While the exhibitions separated the two histories, this essay combines them and surveys a small and representative selection of schools that illustrate architectural taste and pedagogical theories in the development of school design in New York from the nineteenth century to the present.

We want to show by this building, with its towering walls and fair proportions, that the dignity of the school master is rising in the world. . . . We believe that the existence of our government depends on the education of the people. . . . We want the people, as they pass back and forward through Rivington Street to ask what public building this is. We want them to understand that this is a noble institution of learning, and that people have wisely expended their money in erecting schoolhouses in preference to erecting jails. . . . It has been the wish of the school officers to make it such an institution that all classes might be induced to send their children to it; they wished to draw the rich as well as the poor within it, so they erected a structure of which the son of the wealthy man need not be ashamed, and that the son of a poor man may feel proud to enter. Here the both are placed on a perfect equality, and the road up the hill of fame is as broad to the humblest child of our ward as it is to the most favored son of the wealthiest citizen.

DEDICATION OF WARD SCHOOL NO. 4, 1856[1]

THE NINETEENTH CENTURY

In the first part of the nineteenth century, formal education in New York City was a varied patchwork of private tutors, private tuition schools, and charity schools. The city's first public schools were influenced by the schools built and administered by the private Public School Society, founded at the turn of the century.[2] The early New York City schools adopted the Lancastrian teaching system used by the Public School Society. Developed by Englishman Joseph Lancaster, the system was organized around one teacher who conducted a regimented class of several hundred students with the assistance of a group of student monitors.

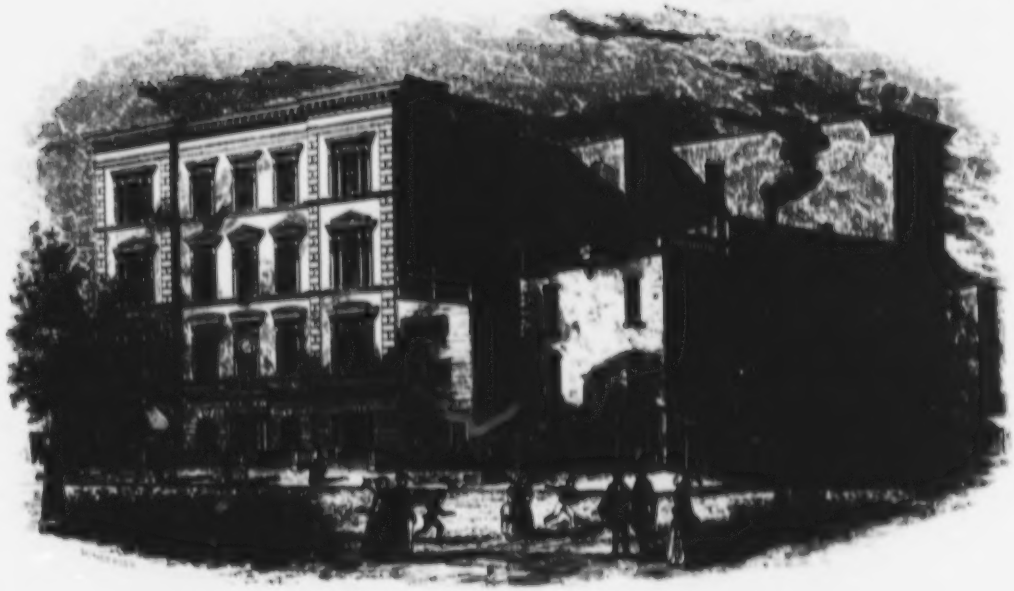


FIG. 1. *P.S. 4, Rivington Street, Manhattan, 1854, elevation*

allowing a large number of students to be taught by the smallest possible number of teaching staff.[3] Class was held in an open hall that often filled the entire floor of the schoolhouse. Each floor of the building was considered a separate school.[4] A modified version of this open room, often designed with sliding partitions to divide the main classroom and separate recitation areas, was used in mid-century city school designs.

P.S. 4 on Rivington and Ridge Streets was constructed in 1854, and replaced a school built by the Public School Society on the same site (FIGS. 1, 2). The building, 75 feet wide by 100 feet deep, actually housed three schools. The ground floor contained a primary school, and the upper two levels contained separate boys' and girls' grammar schools; each was designed to accommodate 700 to 800 pupils in the combined main classroom and recitation areas. Innovations at P.S. 4 included a carefully planned heating and ventilation system, the provision of a room above the gymnasium for drawing classes, and a piano for instruction in vocal music.[5] The shift toward individual classrooms indicated in the plan of P.S. 4 was fairly complete by the end of the century, as the city adopted graded classes with separate rooms.[6]

By mid-century the move toward free public institutions with a fairly systematized curriculum had gained momentum. Carl Kaestle's *The Evolution of an Urban School System: New York City, 1750–1850* documents the shift. In 1829, only 37.8 percent of children in school attended public schools, but by 1850 the proportion had increased to 81.7 percent. Nevertheless only about fifty percent of school-aged children attended any type of school.[7]

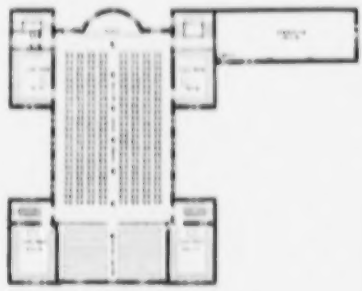


FIG. 2. *P.S. 4, Rivington Street, Manhattan, 1854, second floor plan*

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The increased enrollment in public schools and concomitant reduction in the number of small private schools can be attributed to several factors. Both Public School Society schools and city schools were being created at a steady rate, and with the merger of the two systems in 1853, the basis for a city-wide system was firmly in place. At the same time state funding, which previously had been available to all charity schools, including parochial schools, was limited to public schools. This loss of revenue led some of the oldest schools in Manhattan, including Trinity and the Dutch Church School (later renamed Collegiate), to move away from their roots as church-affiliated charity schools toward a new constituency: tuition-paying students interested in a college preparatory curriculum.

As in Manhattan, independent schools and private school masters had operated in the independent city of Brooklyn since the first residents settled there in the mid-seventeenth century. In 1786 the private academy Erasmus Hall was one of the first secondary schools to be chartered by the Regents of the State University of New York. (The original building still stands as a museum in the courtyard of the public Erasmus Hall High School on Flatbush Avenue).[8] By the time the Packer Collegiate Institute (originally the Brooklyn Female Academy) was founded by a corporation headed by William Satterlee Packer in 1845, Brooklyn had several public primary and grammar schools. Public secondary education did not begin until later in the century with the opening of Girls High and Boys High (the original buildings still stand). Although nationally many boys' college preparatory schools (including the Columbia Grammar School [1764] in Manhattan) were founded earlier, Packer was among the first schools in the country to provide an academic curriculum, including college level courses, for women. The school was created to provide educational opportunities for girls and young women parallel to those at boy's college preparatory boarding schools. Originally for both boarders and local students, Packer also offered tuition-free slots for the top student at each Brooklyn public grammar school.

FIG. 4 *Packer Collegiate Institute, Joralemon Street elevation with additions by Pierre LeBrun (left, 1907), Napoleon LeBrun (right, 1887), and Henry Otis Chapman and Randolph Evans (far right, 1956), 1958*

After the Institute's first building (a square-set, red brick, Greek Revival structure) burned to the ground in 1853, architect Minard Lafever designed a new structure paid for by Harriet Packer in honor of her late husband. The school, which reopened in 1854, is the core of Packer today. In addition to classrooms and recitation rooms the Collegiate Gothic design provided laboratory space, a small gymnasium, a library, and an observatory (FIGS. 3–6). A centerpiece of the original building was a vaulted chapel that has been in continuous use since the school's opening and is the site of frequent assemblies.[9]

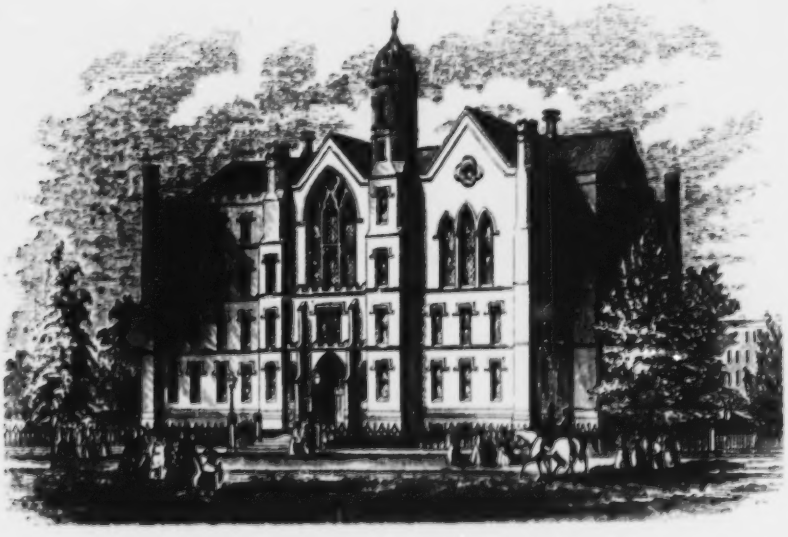

FIG. 3 *Packer Collegiate Institute, Joralemon Street, Brooklyn Heights. Joralemon Street elevation designed by Minard Lafever and completed in 1854*

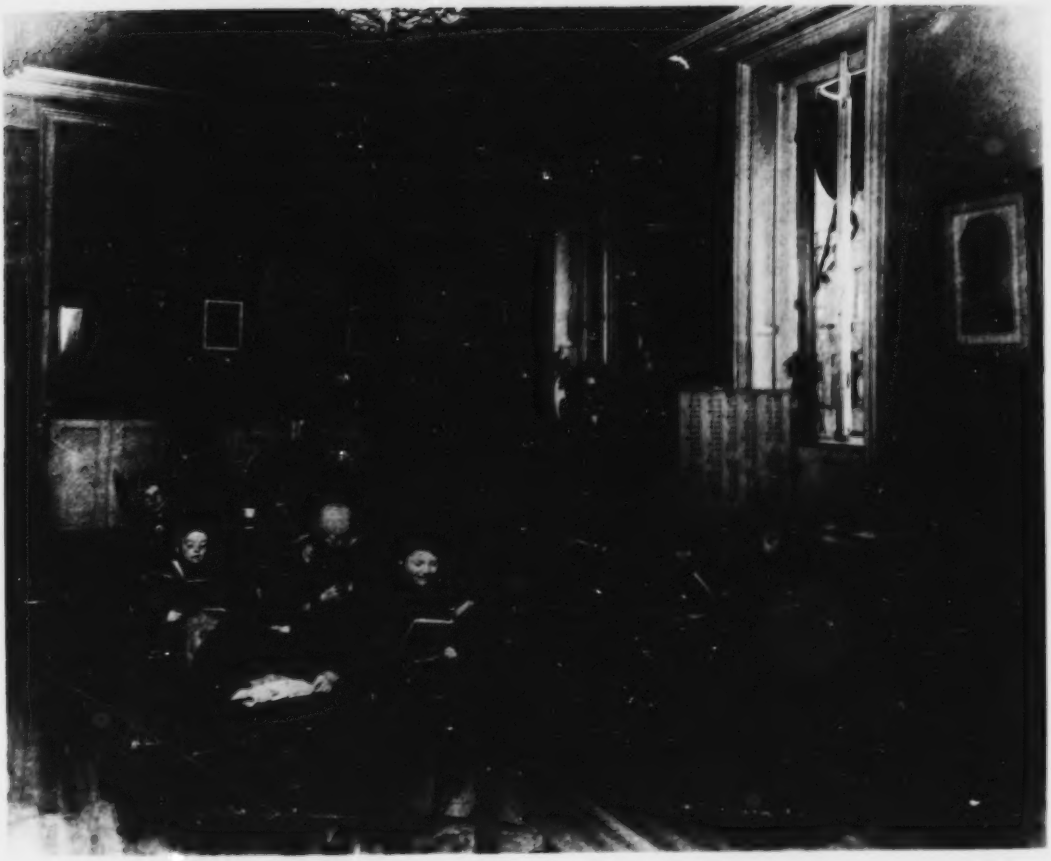

FIG. 5 *Packer Collegiate Institute, first grade classroom, photograph February 1914*

FIG. 6 *Packer Collegiate Institute, first, second, and third floor plans from* Minard Lafever, Architectural Instructor, *1856*

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FIG. 7 *P.S. 34, Samuel Leonard, James Naughton (extensions), 131 Norman Avenue, Greenpoint, Brooklyn, 1867; extensions, 1870, 1887–88, Norman Avenue elevation, 1931*

FIG. 8 *P.S. 15, Simon Williams, 4010 Dyre Avenue, The Bronx, 1877, photograph 1922. P.S. 15, a New York City landmark, is now a community center*

A number of public schools of the second half of the nineteenth century in Brooklyn, the Bronx, and Manhattan still stand today. Many have been designated historic landmarks and illustrate the variety of architectural forms and styles in use.[10] The early Romanesque revival style is represented by a number of schools, including the brownstone P.S. 34 (1867) (FIG. 7). This early example of public school architecture in the Greenpoint section of Brooklyn was designed by Samuel Leonard, Brooklyn's superintendent of buildings for the Board of Education. The Italianate flanking pavilions of the front elevation, as well as additions to the rear of the school, were designed by James W. Naughton, Leonard's successor.[11] A small schoolhouse, P.S. 15 (1877) (FIG. 8), that stands on Dyre Avenue in the Bronx reflects the residential scale and style of some of the small schools erected during this era in the more rural settings of the Bronx, Staten Island, and Queens.[12] P.S. 11 (1889) (FIG. 9), also in the Bronx, was designed by George W. Debevoise, the superintendent of buildings for the New York City Board of Education from 1884 to 1891 and illustrates the mixed architectural vocabulary of this period of school architecture.[13]

FIG. 9 *P.S. 11, George Debevoise, 1257 Ogden Avenue, The Bronx, 1889, additions in 1905, 1930*

FIG. 10 *P.S. 188, C.B.J. Snyder, East Houston between Lewis and East 3rd Street, Manhattan, 1903 (first phase), 1904, rooftop play area, 1922*

CONSOLIDATION AND CONSTRUCTION

At the turn of the twentieth century, New York City's burgeoning immigrant population, as well as its increasingly inclusive education laws, spurred a great wave of large-scale school building. Architect C.B.J. Snyder, Superintendent of School Buildings from 1891–1923, originated a number of features and design strategies that we have come to associate with the city's schools. Of primary importance were: caged rooftop play areas (FIGS. 10–12), which were incorporated in many schools in the more urban parts of the city; new plan types; the reuse of standard building types for similar sites and enrollments; and features such as auditoria and clinics designed not only for school use but also to provide community services and continuing education for students and their families.[14] This role as the center of the community was symbolized by the schools' imposing architectural style, often rendered at a grand civic scale—particularly in the case of the city's new public high schools designed during Snyder's tenure.

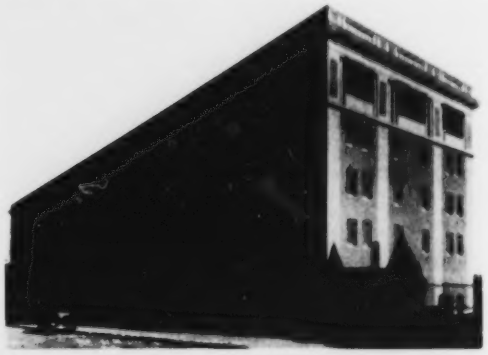
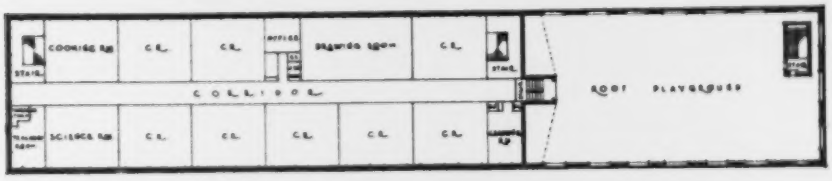


FIG. 11 *Later designs for rooftop play areas were incorporated within the school plan such as P.S. 85, 187th Street from Marion to Webster Avenues, The Bronx, with its open air play area incorporated within the top story, 1933*

FIG. 12 *Fourth floor plan of P.S. 103, The Bronx (similar to P.S. 85) from W.K. Harrison and C.E. Dobbin,* School Buildings of Today and Tomorrow, *p. 204*



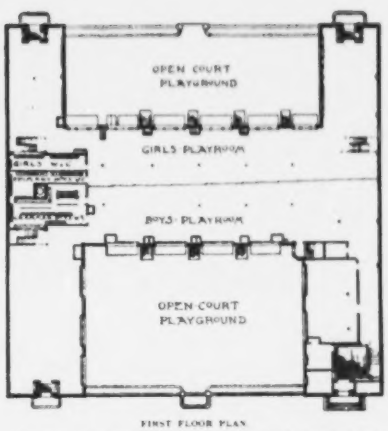
One of the new plan types is the H plan, devised by Snyder to utilize mid-block school sites, and illustrated here by P.S. 165 (1898) (FIGS. 13–16). These sites were more economical than corner sites, but they lacked the access to light and air that a corner site afforded. Snyder's H plan, which was used extensively throughout the boroughs, overcame this disadvantage by creating a pair of courtyards for playgrounds, and allowed for well-lit and ventilated classrooms set back from the street. Like many earlier schools, P.S. 165 had partitions (in the central bar of the H and in the ground floor playroom) that could be moved to create one large open space or separate classrooms.[15] Although the high peaked roofs and ornamented dormers of P.S. 165 resemble contemporary residences designed by Richard Morris Hunt, other Snyder schools, including H plan buildings, were designed in a multitude of architectural styles. Many had flat roofs in order to incorporate rooftop play areas.

Contemporary accounts differ on the source of the H plan. An 1896 *New York Tribune* article attributed the idea to Snyder's study of schools in Paris during a fact-finding trip. He found buildings "of the form of the letter H a style of construction quite frequent in Paris buildings. They may be made attractive without an attempt at display, and they will give better light, ventilation and surroundings for the pupils; and being placed in the middle of the block off from the more noisy thoroughfares, the cost of construction is also greatly reduced."[16] In contrast, *The Real Estate Record and Guide Annual* finds Snyder looking through slides on a rainy day and coming across a picture of the Hotel de Cluny "that suggested the idea of a building absolutely self-contained as to light and air and conforming to the economic limitations imposed by the price of city land."[17]

FIG. 14 *P.S. 165, 108th Street facade, 1917*

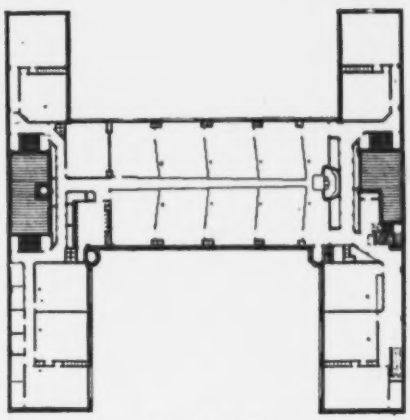
FIG. 13 *P.S. 165, C.B.J. Snyder, 108th to 109th Street between Broadway and Amsterdam, Manhattan, 1898. 109th Street facade, c. 1905*

FIG. 15 *P.S. 165, classroom with partially open partitions, 1951*



FIRST FLOOR PLAN.

FIG. 91. PUBLIC SCHOOL NO. 165, NEW YORK CITY.



SECOND FLOOR PLAN.

FIG. 92. PUBLIC SCHOOL NO. 165, NEW YORK CITY.

FIG. 16 *P.S. 165, plans of first and second floors from Wheeler,* School Architecture, *pp. 119-120*

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Snyder also was responsible for creating designs for a new school building type for the city—the public high school. Widespread high school education was a relatively new component of public education at the turn of the century. Before buildings were constructed specifically for high school programs, a number of schools began in space set aside in grammar schools. High schools constructed during School Building Superintendent Snyder's tenure included Curtis High School in Staten Island, Morris High School in The Bronx, DeWitt Clinton, Stuyvesant, and Washington Irving High Schools in Manhattan, as well as other academic and vocational high schools. Curtis High School (similar in design to Morris High School) is one of many "Collegiate Gothic" school buildings that Snyder designed throughout New York City (FIGS. 17–20).

FIG. 17 *Curtis High School, C.B.J. Snyder, Hamilton and St. Mark's Place, Staten Island, 1902–1904, additions in 1922, 1924, 1937, photograph 1934*

Most of the city's high schools were substantially more elaborate than contemporary primary schools and included large, ornate auditoria designed to be used for school assemblies, theatrical presentations, and community programs. The auditorium at Curtis, as in many earlier school buildings, was first located on the top floor. Early on, plans had been made for a large auditorium to be located at the rear of the building, but budget constraints halted its construction. Another later design by Snyder was built on the side of the building in 1925. This new wing held a large auditorium with a gymnasium below. Classrooms reflected the more differentiated high school curriculum, and even in the relatively small Curtis High School (originally designed for a student population of approximately 750 and completed in 1904), rooms were set aside for a typing classroom, vocational training, and laboratory use.[18]

During the same years that Snyder and the Board of Education were reshaping the form and mission of the public schools, a large number of independent schools consolidated and expanded their programs in new buildings with improved facilities. On the upper west side of Manhattan venerable schools such as the Collegiate School, Trinity School, Columbia Grammar and Preparatory School (and its new sister school St. Agatha's) all constructed new buildings between 1893 and 1907, as did the Ethical Culture School. In midtown Manhattan the Spence School and the Brearley School moved from their original brownstone homes to new buildings on 45th and 44th Street respectively—where the Berkeley School also built to the west of Brearley.[19] These buildings, usually designed for early grades through high school, combined some of the features of the city's new, well-equipped, public primary schools and high schools.

FIG. 18 *Curtis High School, auditorium (completed in 1925), 1926*

One of these, the Brearley School, had been established in 1884 to provide girls with instruction "equal in point of quality to that demanded for the Admission Examinations of the best Colleges." Brearley was originally housed in a brownstone on 45th Street, and five years later built a school at 17 West 44th Street designed for approximately 200 students.[20] By 1911 midtown commercial development had changed the nature of the area, and according to the school's board of directors, the building had become outmoded in the face of "great progress" in the "scientific planning of schools." To take advantage of advances being made in public school design, the Brearley board hired C.B.J. Snyder as a consultant on the new building, which was designed by the firm of McKim, Mead and White (FIGS. 21–24).[21]

The red brick Georgian Revival building located on Park Avenue and 61st Street was designed for 350 students. A large room in the basement did double-duty as a gymnasium and, with portable chairs, as an assembly space. Five standard floors above the mezzanine level contained large corner classrooms sandwiching smaller recitation rooms, and a study area or laboratory. The sixth floor housed a library and art studio in addition to a classroom and recitation rooms. The double-height top floor, originally a covered open-air playground, was designed for future conversion into two additional stories of classrooms when the need for more space arose. When the floors were converted, a caged rooftop play area was built.[22]

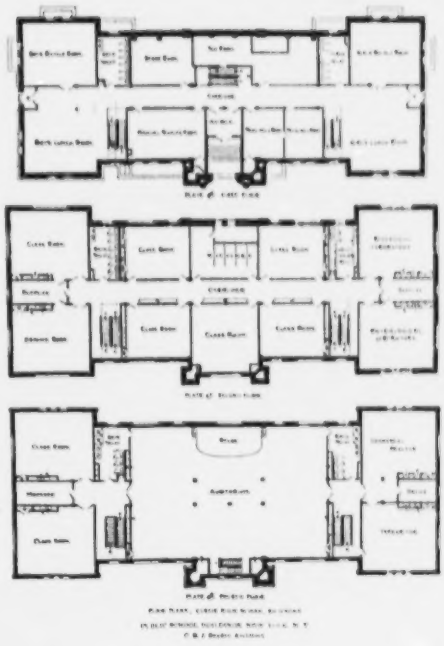

FIG. 20 *Plans of Curtis High School from* American Architect and Building News *XCIII, No. 1681 (March 1908)*

FIG. 21 *The Brearley School, 61st Street building, McKim, Mead & White, 1912 (in use until 1929)*
Park Avenue elevation

FIG. 22 *The Brearley School, expanded rooftop play area*

FIG. 23 *The Brearley School, classroom*

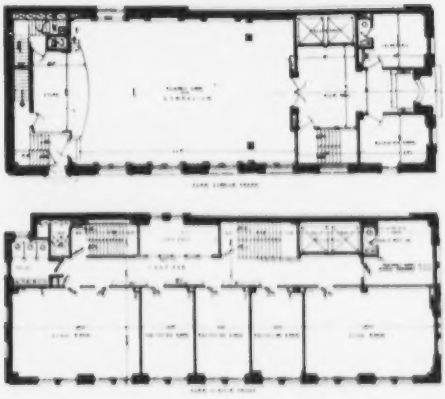

FIG. 24 *The Brearley School plans of assembly room floor and standard floor*

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FIG. 25 *P.S. 94, Kings College Place between Van Hill Road and East 211th Street, The Bronx, 1929, photograph 1929*

STANDARDIZATION, VARIATION, AND THE SCHOOLS' BUILDING BOOM

From the modified repetition of similar plan types and architectural styles, Snyder and his successors developed a series of standardized school-building plans to speed design and construction and reduce costs. During the 1920s over 200 public schools were constructed in New York City, many of them built to these plans developed by the Board of Education.[23] The creation of standardized building plans paralleled efforts to further standardize the school curriculum and continuing efforts to "Americanize" the diverse student population.[24] Initially, three elementary school types were designed, each of which responded to a specific level of enrollment and the population density of the community. The largest was the A type for populous areas. A smaller building, the C type, was designed "for localities with detached houses," and the smallest, the D type, was designed for sparsely populated outlying districts.[25] New York's rapidly increasing and shifting population often made additions to these schools necessary soon after completion, leading the Board of Education to create a modular plan designed for expansion—the M plan (FIGS. 25–29).[26]

The U-shaped M plan, designed to be either three or four stories, divided the school into three units. The A section, the main part of the building, contained the boiler room, toilets, playroom, office, teachers' room and classrooms. The B section contained an auditorium, gymnasiums, and classrooms, and the C section contained additional classrooms. In some districts all three sections were built at once, while in others the sections were added as the population increased. The larger schools such as P.S. 230, P.S. 150, and P.S. 151 were designed for a capacity of approximately 1,600 students. Within the schools, partition walls between classrooms were free of ducts and closets,

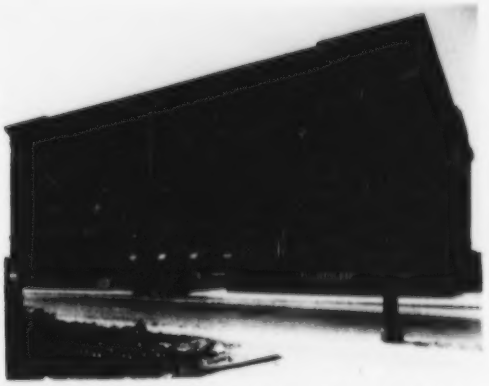


FIG. 26. *P.S. 230, Albermarle Road from Dahill Road to Gravesend Avenue, Brooklyn, 1930, photograph 1931*

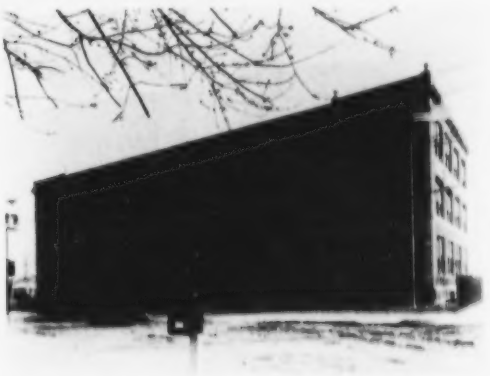
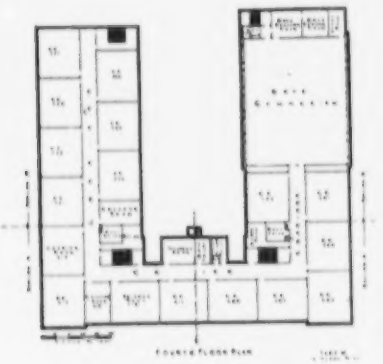
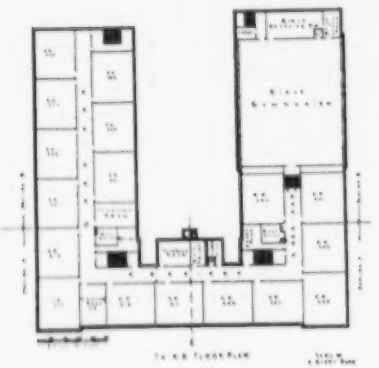


FIG. 27. *P.S. 156, 147th Avenue, 229th to 230th Streets, Laurelton, Queens, 1931, photograph 1931*

FIG. 28. *P.S. 155, 115th Avenue and 130th Street, South Ozone Park, Queens, 1931, photograph 1931*





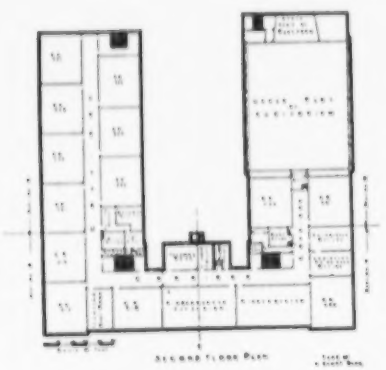


FIG. 29. *Al Plans from W.K. Harrison and C.E. Dobbin, School Buildings of Today and Tomorrow, p.194*

in theory allowing alteration of the basic classroom unit size.

Architecturally the M plan schools were virtually devoid of any identifiable style. The four-story variation (FIG. 25, 26, 28) with its simple linear brickwork patterns articulating parts of the facade, bears some relationship to "Chicago School" design, particularly to schools in the Chicago area designed at least ten years earlier by Dwight Perkins while he was the architect for the Board of Education and later in private practice.[27] The three-story M plan shown here (FIG. 27) could perhaps be described as Georgian Revival. Other modular standardized plans developed during this time include the U-shaped O and P plans.[28]

Teaching methods had shifted by the late 1920s from the rigid nineteenth-century system of lectures and recitations to more individualized instruction that often included lessons learned through creative participatory activities rather than passive absorption and repetition.[29] In some cities changes in teaching were accompanied by a move away from fixed seating to more flexible classroom fixtures.[30] This sort of flexibility in design was at least a decade away for new schools in New York City, although experimental classes, such as those organized by Elizabeth Irwin,[31] and the slightly later activities classes at some of the public schools led the Board of Education to consider new approaches to classroom design (FIG. 30).[32]

In contrast to the standardization that characterized public schools during this era, independent school buildings and teaching methods can best be characterized by their diversity. New approaches to learning, to classroom organization and to the overall school plan joined concerns shared with public schools, such as more space for special activities and up-to-date school facilities.[33] The Little Red School House, The Dalton School, The Fieldston School, and the new Brearley School give evidence of the variety of buildings types and teaching philosophies that characterized these years.

Pathbreaking work in school organization initiated by such reformers as Francis Parker and John Dewey had a strong impact on schools in New York City. Parker's methods were tested first in Massachusetts and later at the practice school of the Cook County Normal School in Chicago. Daily morning assemblies and informal classrooms reinforced the idea that each member of the school community had a role in shaping education. Children helped develop their curriculum, sometimes using readers made up of their own stories. New emphasis was placed on the importance of the arts as a means of expression, and other subjects were approached through firsthand experience, including class field trips.

John Dewey's Laboratory school, opened in 1896 in Chicago, served as a testing

FIG. 30 *P.S. 150, 43rd Avenue and 40th Street, Long Island City, Queens, 1931, photograph 1935*

ground for his educational theories, which placed a strong emphasis on the relationship between learning and everyday life. Dewey felt that one way the educational experience could be unified was through the teaching of a central theme, which would integrate the studies of each grade. The presentation of a given historical period, for instance, could generate related studies on literature, language, and science.

In New York City, the Lincoln School of Teacher's College, founded in 1917, was one of the first schools created specifically to explore the possibilities of "progressive" education. Close on its heels were the experiments in public schools begun by Elizabeth Irwin in 1919 with the support of the Public Education Association. First working in a "little red" school building, Irwin sought to apply Dewey's teaching philosophies to public school education with its larger class sizes and diverse student body (FIG. 31). As with Dewey's classes, strong emphasis was placed on learning through experience.

FIG. 31 *Class at P.S. 41 (forerunner to The Little Red School House) creating impressions of their visit to the riverfront*

When funding for Irwin's work dried up at the beginning of the Depression and the Superintendent of the New York City schools failed to support the program, a group of parents pledged tuition support. The mission house of the First Presbyterian Church at 196 Bleecker Street was leased in 1932, and classes at the independent Little Red School House began. The school purchased the building four years later (FIGS. 32, 33).

FIG. 32 *The Little Red School House, Bleecker Street, Manhattan. Pre-K–8, coed, c. 1941; the two adjacent brownstones are now part of the school*

FIG. 33 *The Little Red School House, a class conference in geography, 1946*

Classrooms in the building are large, particularly for the younger children, and are intended to house class sizes that parallel those of the public schools. Photographs illustrate the flexibility of the furnishings, with moveable tables, desks, and chairs. School photographs also document rather untraditional field trips, such as visits to the sanitation department, which extended the students' learning experiences beyond the classroom walls (FIG. 34).[34]

Another school linked with progressive education is the Dalton School, opened in 1919. Helen Parkhurst, the founder of Dalton, synthesized her teaching experience and her study with the educator Maria Montessori to create a new teaching system, the "laboratory plan." In this system, developed in an experiment at the High School of Dalton, Massachusetts, in 1919, students worked relatively independently on long-term assignments with teachers' guidance.[35]

Like Brearley's, Dalton's first home was a brownstone when Parkhurst moved to New York and opened the school on West 74th Street. The school soon moved to larger quarters on West 72nd and 73rd streets. During these years the house system, still in use today, was initiated. Students are members of small groups, which include children of different grade levels, that meet daily with advisors to discuss individual progress on assignments and to deal with general topics, including, for older students, college counseling (FIG. 35).

FIG. 34 *The Little Red School House, a class visit to the Sanitation Department Garage on Rivington Street*

FIG. 35 *The Dalton School, the English laboratory at West 72nd Street*

The Dalton School building, opened in 1929, was co-ed through eighth grade, with the high school limited to girls until the mid-1960s (FIGS. 36–38). Originally, the lower floors of the building were primarily filled with staff offices on three sides of a double-height auditorium. A lunch room with indoor and outdoor seating filled the space above the auditorium on the third floor. The remainder of the building was filled with "labo-

FIG. 36 *The Dalton School, 89th Street elevation, 1929, Richard H. Dana, Jr., rendering by Chester Price*

FIG. 37 *The Dalton School, hallway, c. 1930*

FIG. 38 *The Dalton School, plans*

FIG. 39 *The Fieldston School, Riverdale, The Bronx, Robert D. Kohn and Clarence S. Stein, 1928; aerial perspective of campus from Spuyten Duyvil Parkway, 1928*

ratory" or classroom spaces, as well as a generous number of art, craft, and music rooms. Older students occupied the lower floors, and primary students were on the top two floors. Secondary stairs linked pairs of floors by age group, creating smaller schools within the school. A glassed-in "open-air" gymnasium with moveable glass shutters topped the school.[36]

The Fieldston School, an Ethical Culture School, represents another tradition of school building and curriculum, the "country day school" (FIGS. 39–41). The location of Fieldston's 18-acre campus in Riverdale in the northwest Bronx followed the lead of the Horace Mann and Riverdale Country Schools. At a time when many schools operated on a half-day schedule, country day schools provided a full-day program, including elective courses and sports activities. The academic program and student population of Fieldston represented long standing concerns of the Ethical Cultural Society Schools: the inclusion of ethics courses within the standard curriculum and a diverse student body that included a large percentage of students on partial or full scholarships.[37]

An early scheme for the campus by Clarence Stein and Robert Kohn, the architects for the school, shows a basically symmetrical layout with buildings organized along a central spine. A secondary axis terminates in an open-air amphitheater.[38] The final scheme is a more picturesque sweep of linked brick and stone buildings in an undulating open landscape that, when approached by car, is entered through an archway carved from the "Rector's Tower." Special facilities included a number of laboratories within the science building, and a large dining hall and library reading room with cathedral ceilings. The extensive grounds allowed a number of playing fields and recreation areas.[39]

The combined influence of the all-day programs offered by the country day schools and the relocation of other schools, such as the Chapin School and the Spence School to Manhattan's Upper East Side, no doubt contributed to the Brearley School's reassessment of its building needs. By the end of the 1920s, Brearley had outgrown its Park Avenue building. The widening of Park Avenue and increased traffic to the Queensboro Bridge on 61st Street led the

FIG. 40 *The Fieldston School, Art and Administration buildings from inside quadrangle, 1928*

FIG. 41 *The Fieldston School, library*

trustees of the school to look for a new site in a more residential area. Designed by Benjamin Wistar Morris and completed in 1929, the building that now houses Brearley is located on the east end of 83rd Street, facing the East River (FIGS. 42–45).

In the Park Avenue and 61st Street building, the official school day ended at one-fifteen. Afternoon extra-curricular activities had begun to lengthen the school day, however, and Morris's plans for Brearley's new ten-story building took these changes into account. Large home room classrooms are located in most of the riverfront corners, with smaller classrooms for specific subjects or tutorials and spaces for art, music, and shopwork filling the rest of each floor. Gymnasia are located on the ninth and tenth floors, with a roof play area topping the building. The primary classrooms located on the lower floors originally opened directly to a roof deck play area. With these innovations in place, Brearley was able to switch to an all-day schedule, which like Fieldston and other "country day" schools made possible special classes and recreation in addition to regular studies.[40] Architecturally, the building represents a shift away from the Georgian Revival styling of the school's former home (and of a good number of public and private schools of the era). Morris's design bears a greater relationship to contemporary commercial skyscraper design.

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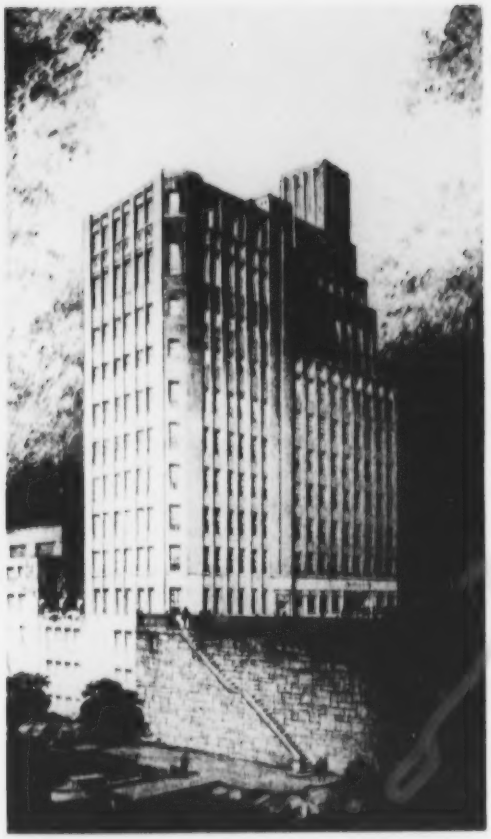


FIG. 42 *The Brearley School, 83rd Street Building, Benjamin Wistar Morris, 1929, East 83rd Street and East End Avenue, Manhattan, 83rd Street elevation, 1929, rendering by Chester Price*

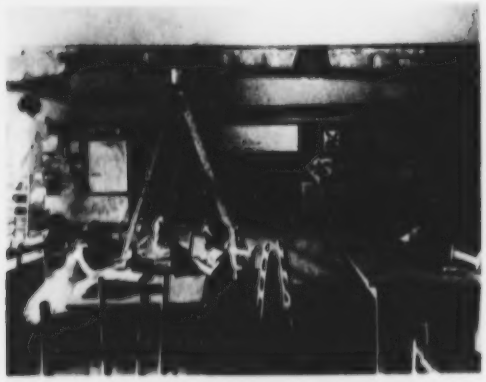
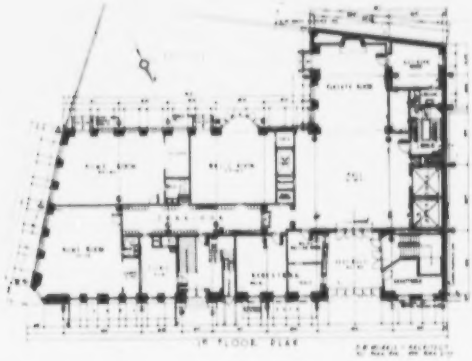


FIG. 43 *The Brearley School, third grade classroom with mural of old New Amsterdam, c. 1932–1934*

FIG. 44 *The Brearley School, auditorium, 1930s*



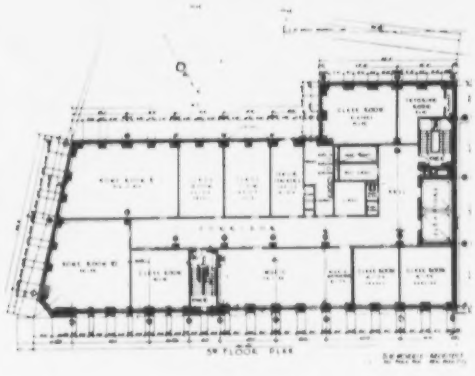


FIG. 45 *The Brearley School, first and fifth floor plans*

FIG. 46 *Herman Ridder Junior High School (P.S. 98), Walter C. Martin, Boston Post Road and East 173rd Street, Morrisania, The Bronx, 1930*

In the early decades of this century, the city's public schools began to incorporate an increasing number of special activities, particularly in junior high schools and high schools. The junior high school is a twentieth-century invention, created to solve a series of educational and logistical problems associated with education of adolescents and general overcrowding in elementary and high schools.[41] In New York City the first intermediate schools, for the seventh and eighth grades, were opened in 1905. Ten years later the junior high school was created with the inclusion of ninth grade students. In addition to removing these grades from crowded elementary and high schools, the new junior high schools allowed a more differentiated curriculum, similar to that of the high schools, including more advanced academic classes, vocational training, and "homemaking lessons." By the 1920s and 1930s, increased emphasis was also being placed on extra-curricular activities, including sports and clubs, as a constructive means of socializing children and providing training outside of regular classroom activities.[42] Some junior high schools were designed to facilitate these activities.

Herman Ridder Junior High School, located in the Morrisania section of the Bronx, is a particularly elaborate school building (FIGS. 46–50). Ridder's "modernistic" form, by Walter C. Martin, the superintendent of school building and design for the Board of Education from 1928 to 1938, predates better-known Art Deco apartment buildings in the Bronx by architects like Horace Ginsbern. Although the academic classrooms in Herman Ridder were designed to standardized specifications that included fixed seating for 35 to 40 students, some rooms, particularly the public spaces, are singular in form and ornamentation. Both the octagonal main entrance and auditorium entrance lobbies have stepped soffits above stylized floral friezes. The "hinge" of the angled building contained, on separate floors, a sewing room, typing room, and library. The first level of the tower was used as a music room, with a band practice room in the domed area above. The auditorium, although similar in plan to other school auditoriums of the time, has unique fixtures and lighting.

Herman Ridder, designed "to show the influence of the modernistic trend in architecture," was built to accommodate approximately 3,000 students. Architecturally, it was the exception rather than the rule for junior high school design in the city. Most of the junior high schools built during this period were designed using an expanded variation of

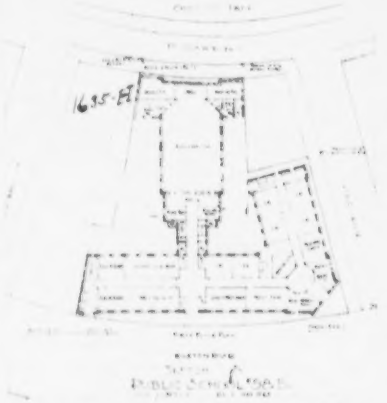


FIG. 47 *Herman Ridder Junior High School, preliminary plan, first floor*

FIG. 48 *Herman Ridder Junior High School, entrance lobby, 1931*

FIG. 49 *Herman Ridder Junior High School, typewriting class, 1935*

FIG. 50 *Herman Ridder Junior High School, auditorium, 1931*

the ubiquitous M plan—although by the mid-1930s the facades of some were modified echoes of more "modernistic" design.

High schools, like junior high schools, were seen as places for education, vocational training, and socialization. Although these goals for students had been consistently articulated by the Board of Education virtually since its inception, the high school building of the 1920s and 1930s significantly increased the number of facilities specially designed to meet these aims. Franklin K. Lane High School, which straddles the border between Brooklyn and Queens, was one of a series of large academic high schools built during the 1920s and 1930s, each to serve a population of about 4,000 students. Franklin K. Lane was designed in 1930 and completed eight years later, with construction funds provided by the federal government's Public Works Administration (FIGS. 51–58). The school incorporated a variety of laboratories and vocational training classrooms as well as spaces for special activities, including club meetings and art exhibitions.[43] The Franklin K. Lane plan is similar to those of several other high schools of the 1920s and 1930s, including Theodore Roosevelt High School in Manhattan and the second DeWitt Clinton High School in the Bronx. Although only a few of the overall plans of these high schools were standardized, many classrooms and fixtures were built to standardized specifications.

Social training for adult life was not limited to sports, clubs, student government, or school publications. The Home Making Room or Apartment, found in junior high schools and high schools, was a suite of rooms that simulated a "homey" colonial residence. The rooms were furnished with what, it seems, were considered the aesthetic basics for the home, such as a living room with fireplace, rugs, chairs "of various types," center table, gateleg table, nesting tables, desk, tea wagon, floor lamps and table lamps. More specialized homemaking skills were taught in "home nursing" rooms, which were equipped with hospital beds, cribs, an adjustable bedstand for serving meals, portable baby's bath, portable foot tub, sink and drain-board, and a medicine cabinet.[44]

FIG. 55 *Franklin K. Lane High School, home nursing classroom, 1935*

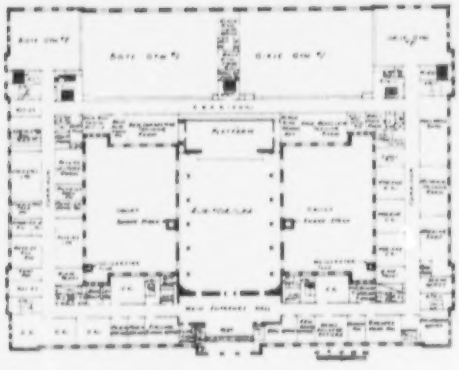


FIG. 56 *Plan of Franklin K. Lane High School from Short and Stanley-Brown,* Public Buildings

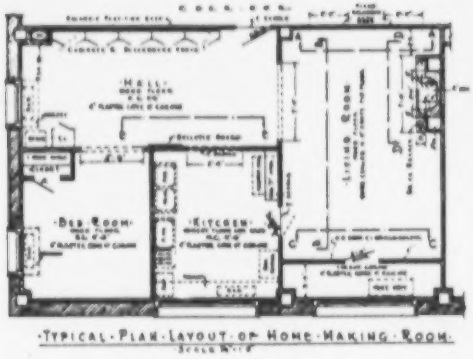


FIG. 57 *"Typical plan for Home Making Room—High School" from W.K.Harrison and C.E. Dobbin,* School Buildings of Today and Tomorrow, *p. 224*

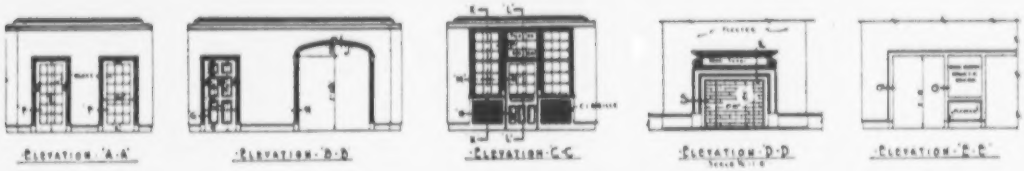


FIG. 58 *"Elevations for Home Making Room—High School" from W.K.Harrison and C.E. Dobbin,* School Buildings of Today and Tomorrow, *p. 224*

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FIG. 51 *Franklin K. Lane High School, Walter C. Martin, Jamaica Avenue and Dexter Court, Brooklyn, 1937*

FIG. 52 *Franklin K. Lane High School, library, 1937*

FIG. 53 *Franklin K. Lane High School, art gallery, 1937*

FIG. 54 *Franklin K. Lane High School, home making apartment, 1937*

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POST-WAR PLANS—THE 1940s AND 1950s

The war years brought school construction in New York, which had slowed during the Depression, to a virtual halt. By the mid-1940s, however, extensive planning was underway for a massive postwar building program. Many of the planned schools were to be designed by the Board of Education's Bureau of Construction headed by Eric Kebbon, Walter C. Martin's successor. A number of private architectural firms, commissioned by the Board of Education to design schools, were encouraged to develop new architectural solutions for the school plan. The firms ranged from those that had built traditionally styled private schools or universities, such as Delano & Aldrich and James Gamble Rogers, to firms that were more well known for their modern commercial designs, such as Harrison, Fouilhoux & Abramovitz, and Skidmore, Owings & Merrill.[45]

Published by the Board of Education, the initial designs for postwar schools were basically modernizations of older styles with simpler decoration and scale. But by the 1950s, designs reflected new ideas of "child-sized" rather than monumental scale and were designed in contemporary architectural styles.[46] Modern building materials and technology redefined the look of the school. The exteriors of these buildings often resembled the curtain-walled commercial structures that were beginning to fill the country's landscape.

Kelly & Gruzen's George Wingate High School of 1953–1955 located in Brooklyn, illustrates the multitude of structural, aesthetic, and programmatic changes in architectural design that were taking place during this time (FIGS. 59–61). The first new high school constructed in New York City since 1941, Wingate was designed for use by approximately 3,000 students. The unique banjo-shaped plan was devised to cut down on travel distances between classes and eliminate dead-end corridors. Heavily used areas, including the auditorium and gymnasium, were centrally located and designed for community access. The circular wing contains classrooms and a skylit art studio in addition to the cafeteria and auditorium.

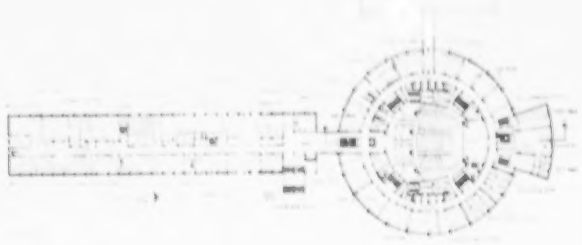

FIG. 59. *Plan of George W. Wingate High School from* Architectural Forum, *November 1952*
FIG. 60. *George W. Wingate High School (the "banjo school"), Kelly & Gruzen, Kingston Avenue and Winthrop Street, Brooklyn, 1955*

The rectangular wing contains shop and science classrooms. Moveable seating was used in the classrooms, reflecting the curricular changes initiated in earlier decades. Following the precedent set by W.P.A. public art projects in schools, Kelly & Gruzen commissioned artwork for the building—the first time that new artworks were integrated in the design for a new school building.[47]

FIG. 61 *George W. Wingate High School, classroom*

The High School of Art and Design and P.S. 59 in Manhattan, designed by William Lescaze with Kahn and Jacobs and built in 1959–1960, reflects another new approach to school planning (FIGS. 62, 63). The two schools were built as a single project, and although they operate as separate units, they share a basement and first story that fills the entire school lot. An outdoor recreation area for the high school and the primary school's play areas are located on top of the high school's first-story auditorium and gymnasium. For special events that require a space larger than P.S. 59's "multi-purpose room," primary school students had access to the high school auditorium. Otherwise, the two schools function independently, with the entrance to the high school located on Second Avenue and the entrance to P.S. 59 around the corner on 59th Street.[48]

FIG. 62 *P.S. 59 & High School of Art and Design, William Lescaze with Kahn and Jacobs, 57th Street and Second Avenue, Manhattan, 1959–1960. High School of Art and Design, left and P.S. 59, right*

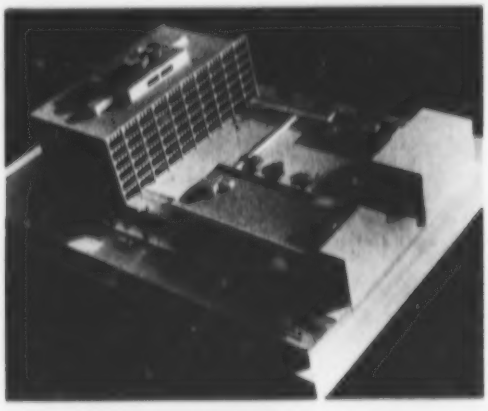

FIG. 63 *P.S. 59 & High School of Art and Design, model*

FIG. 64 *P.S. 36, Manhattan (K–2 or 4), Frederick G. Frost, Jr, Architect, M. Paul Friedberg, Landscape Architect, 120th and Amsterdam, 1967, north elevation*

RETHINKING THE SCHOOL PLAN—THE 1960s AND 1970s

In the 1960s and 1970s the trend in school buildings was toward more "flexible" plans.[9] The traditional school building was broken down into separate volumes, often with separate functions, such as a freestanding auditorium. Teaching spaces often incorporated several "classrooms" that could be joined or separated by sliding walls or moveable storage units. As opposed to standardized approaches to school designs, some architects created unique solutions in response to the site.

The designs of P.S. 36 in Manhattan, by Frederick G. Frost, Jr., completed in 1967 (FIGS. 64–67), and P.S. 380 in Brooklyn by Richard Dattner, completed a decade later (FIGS. 68–70), illustrate the development and implementation of these concepts within some of the city's public

FIG. 65 *P.S. 36, rendering*

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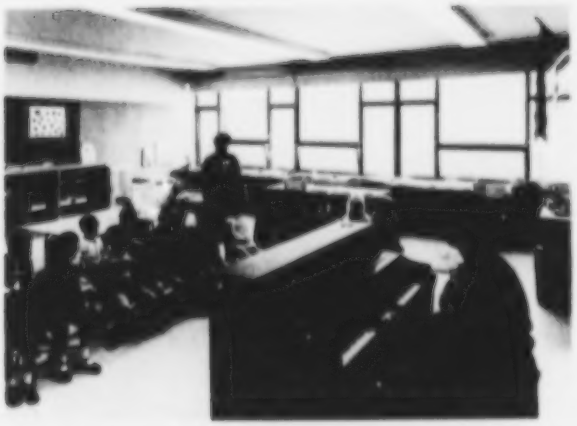


FIG. 66 *P.S. 36, classroom*

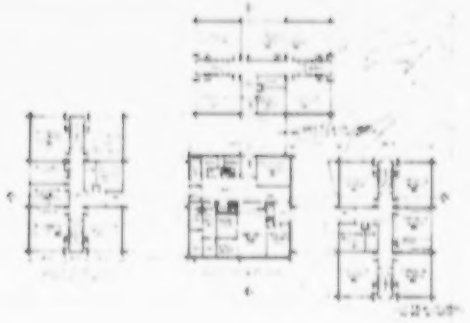
schools. P.S. 36 is broken into four separate pavilions linked by bridges. The irregular geometry of P.S. 380 coalesces around the "main street" hallway, which runs along the long diagonal spine, linking learning spaces and providing informal teaching areas and gathering spaces for students.

Both schools also provide experiential learning environments. P.S. 36, set in a rocky area of Morningside Park, incorporates the landscape in the base of the school, with courtyards sympathetically designed to relate to the park. P.S. 380 has exposed color-coded ductwork and a glass-fronted boiler room. An intriguing drainage system creates a waterfall from the auditorium roof to the kitchen roof when it rains. Rain water is also funneled through a clear glass pipe inside the school.[50]

Both buildings incorporate open or flexible classrooms. At P.S. 36, these take the form of some double-sized classrooms with moveable dividing partitions. In P.S. 380, designed for 1,500 students from kindergarten to fourth grade, this concept was developed into nine large "learning complexes" that can be used for "team teaching," or divided into classrooms. Each learning center also includes ancillary spaces: a "resource space," small rooms for individual instruction, a conference room, toilets, and storage. Also, P.S. 380's first floor (containing a gym, auditorium, and early childhood classrooms) is designed for separate use for summer sessions and community programs.

A number of independent schools built or renovated during this era also incorporated open plans. Echoing some of the strategies that characterized school interiors over a century earlier, provisions were made for large spaces that could be subdivided with moveable partitions. Like a number of other earlier independent school buildings, new schools were often created in non-traditional spaces.

For example, the Acorn School was founded in 1966 by a group of five families seeking a neighborhood Montessori nursery school. Originally, the school was located in the basement of a Beth Israel Hospital residential building.



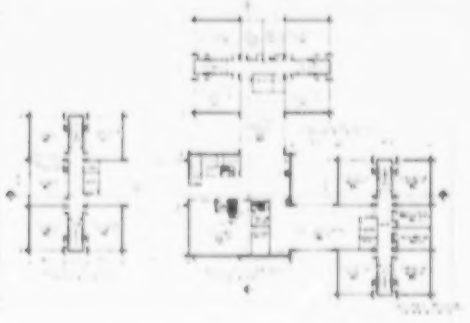


FIG. 67 *P.S. 36, preliminary plans*

FIG. 68. P.S. 380, Richard Dattner & Associates Architects. Marcy Avenue between Lynch and Middleton Streets, Brooklyn, 1977. Lynch Street elevation.

FIG. 69. P.S. 380, "Main Street" hallway.

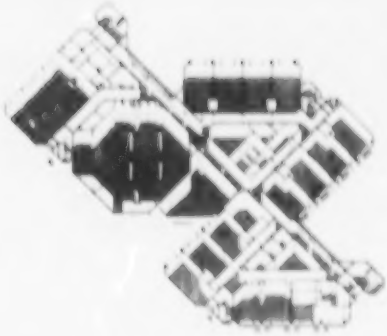
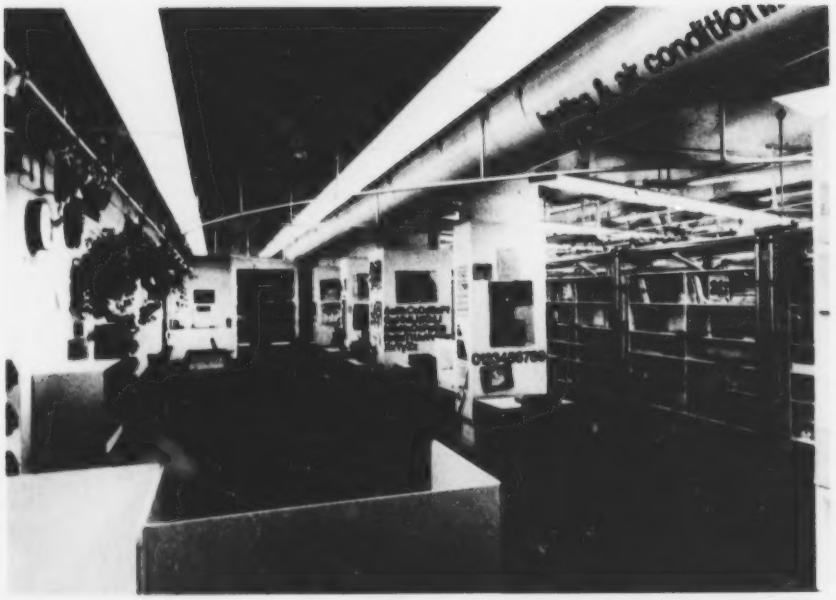


FIG. 70. P.S. 380, axonometric plan.



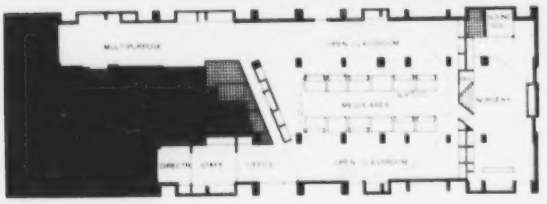


FIG. 71 *The Acorn School, 26th Street between First and Second Avenues in first floor of Phipps Houses, Manhattan, Mayers & Schiff, 1971*
FIG. 72 *Acorn School, plan*

Parents played a major role in building the school's furnishings and in cleaning, bookkeeping, and fundraising. Three years later an upper school for children six to nine years old was opened in the parish house of a neighboring church. The children were to be taught in an ungraded, open classroom.

In 1971 the school consolidated its program in a 5,100 square foot "found space," originally planned for medical offices, in the first floor of the newly constructed, federally subsidized Phipps Houses. The architects, Mayers and Schiff, combined an educational program calling for extremely flexible open spaces that included some of the children's wishes, most notably for a school that was a kind of treehouse (FIGS. 71–73). The finished space was divided into four main sections: an administrative area, a multipurpose playroom, a separate nursery space, and two upper school classrooms, with the possibility of creating a third. Moveable scaffolding divided and furnished the space. A media area was located between the double row of scaffolding that separated the two "classrooms." Work spaces, library and storage shelves, and elevated study nooks with mattresses were held within the scaffolding, and colorful banners on hospital cubicle curtain tracks helped to divide the space visually. Colorful supergraphics further defined the spaces.[51]

Another independent school incorporated in a larger structure is the Bank Street School, part of the Bank Street College of Education designed by Harry Weese and Associates, constructed in 1970. The school, like The Little Red School House, has its roots in both the educational reform and settlement house movements. Its forerunner, the Bureau of Educational Experiments, was founded by a group that included Elizabeth Irwin, Caroline Pratt (the

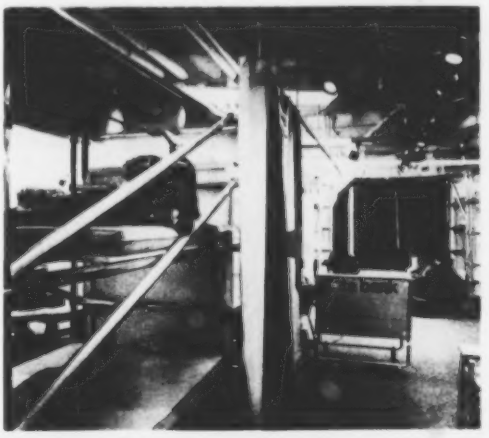


FIG. 73 *The Acorn School, interiors with moveable scaffolding creating study and reference spaces*

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founder of The Play School, later the City and Country School), and Harriet Johnson, under the leadership of Lucy Sprague Mitchell. Bureau members were strongly influenced by Dewey, but also by the idea of a systematic, scientific approach to studying children and learning through observing their play, growth, and study. During the early years the Bureau, located in the Mitchell residence on West 12th Street, sponsored its own nursery school and The Play School (for older children) on 13th Street (FIG. 74).[52] In 1930 the Bureau of Educational Experiments renovated and relocated to the old Fleischman's yeast brewery and storage building on Bank Street. The teacher training that had become part of the Bureau's work became a formal program, and a full elementary school was opened.

In 1970, the school moved to its present building on 112th Street. The nine-story structure was designed to house the Children's School and the College of Education as well as a number of administrative offices (FIGS. 75–77). The school, which has an enrollment of about 450 students, occupies the second, third, and fourth floors of the building, and shares some other facilities including the library, gymnasium, and cafeteria. The building lobby is used by the Children's School for small assemblies, singing, plays, and other group events. Hallways too provide spaces for more informal gatherings, with wooden "boxes" that students can arrange for seating or play. Most classrooms contain a flexible arrangement of tables and chairs, as well as three long padded benches arranged in a "C" shape for presentations, meetings, and informal gatherings. The classrooms for the youngest children, on the second floor of the buildings, open onto an outdoor playdeck. A roof playground tops the building.[53]

FIG. 75. *Bank Street School, perspective from 112th Street. Harry Weese and Associates, Architects, 1970.*

FIG. 74. *Bank Street School, nursery classroom at the Bureau of Educational Experiments brownstone on West 13th Street.*

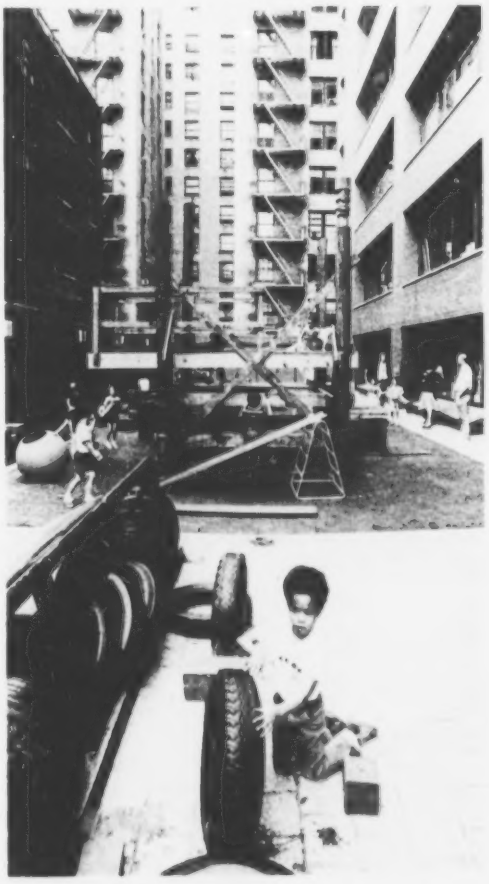

FIG. 76. *Bank Street School, second floor roof playground.*

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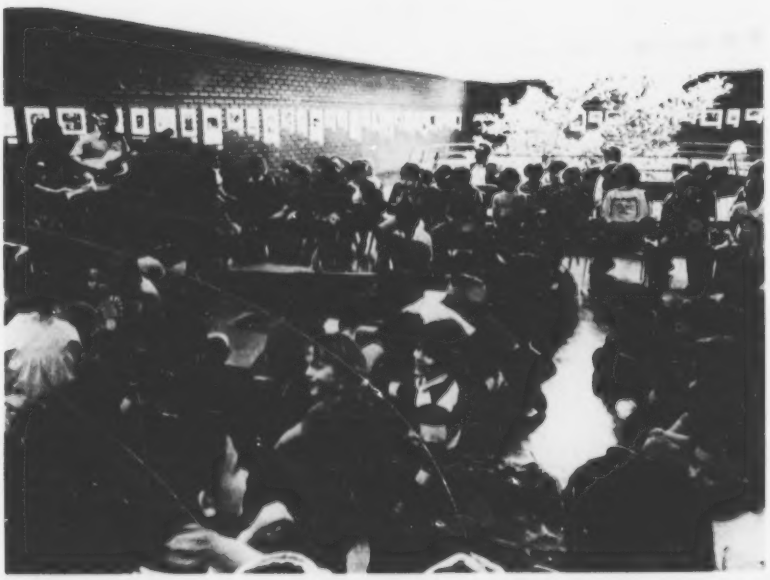

FIG. 77. *Bank Street School, lobby with cafeteria below and skylight to roof playground*

THE 1980s AND 1990s—TRADITIONAL SOLUTIONS AND PLANS

The recently opened P.S. 234 in Manhattan, designed by Richard Dattner & Associates, combines some of the innovative features of P.S. 380—such as a main corridor designed to allow informal meeting places and exposed structural systems—with more traditional individual classroom units (FIGS. 78–80).[54] The turreted exterior with arched windows facing the street recalls the more monumental schools of an earlier era. One of the turrets holds a school bell, and the others are school entrances, including two separate entrances that open directly into kindergarten classrooms.

In 1988, Dattner's firm, along with three other New York City architecture firms, The Ehrenkrantz Group & Eckstut, Gruzen Samton Steinglass, and Perkins and Will, were commissioned by the Board of Education to develop prototypical school buildings that hark back to another New York City tradition, that of the modular school plan. In contrast to the standardized buildings of the 1920s and 1930s, these buildings are designed as "kits of parts" or modules that can be freely rearranged to suit the school enrollment and site.[55]

The Children's Storefront, a tuition-free, independent school in Harlem follows the independent school tradition of carving education space into the existing urban fabric. Until recently the school was based in two brownstones, separated by a vacant building, on East 129th Street in Harlem (FIGS. 81, 82). The school began as a preschool for neighborhood children, and since 1981 has added one grade a year, graduating its first class of five eighth graders in 1989. At that time classes for the youngest children were held on the first floor of each building in an open

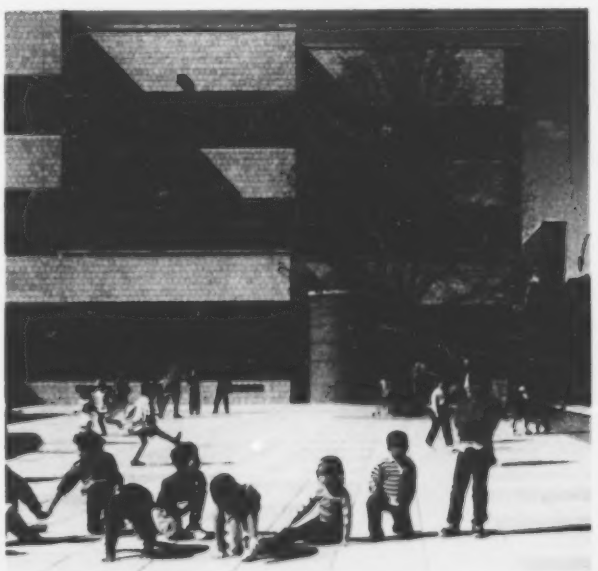

FIG. 79. *P.S. 234, Richard Dattner & Associates Architects, Chambers and Greenwich Streets, Manhattan, 1988, playground inside gates*

FIG. 78. *P.S. 234, plan of first floor*

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space that can be separated with a divider. Classrooms for the older children, who are taught a traditional curriculum in small classes ranging from eight to fifteen students, were located on the upper floors along with administrative offices. The ground floor housed the kitchen, dining room, and computer room. Students used other spaces in the neighborhood, such as nearby parks and a local church, for recreation and assemblies.

The school recently purchased two buildings on the other side of 129th Street. Renovations began in the spring of 1990, and the school took occupancy in autumn, 1991. The new building includes classrooms for older children, a reading room on the top floor, and a ground-floor gymnasium, music room, and assembly space to accommodate 160 people (FIGS. 83–85).[56]

FIG. 80 *P.S. 234, classroom*

DEVELOPMENT, MAINTENANCE, ADAPTATION, AND CHANGE

The preceding examples give some indication of attitudes to education and their architectural expression during the development of the city's public school system and independent schools. Yet new school buildings, photographed in their freshly minted prime, provide only a partial picture of the prevailing issues of a maturing urban system. The same factors that shaped the building and form of new schools—changing educational methods and a growing or shifting population—acted upon the existing (if rapidly growing) building fabric. These issues were joined by the ramifications of wear and tear that were often exacerbated in the public schools by the heavy use generated by overcrowding.

FIG. 81 *The Children's Storefront, 129th Street between Park and Lexington Avenues, Manhattan. Pre-K–8, coed; school brownstones (non-adjacent) from 129th Street*

FIG. 82 *The Children's Storefront, Kindergarten classroom*

From the outset, New York City's schools have had the eyes of the public on their successes and failures. The sheer numbers of students in the city school system have guaranteed its use as a model—good or bad—for educators and reformers. In the nineteenth and early twentieth centuries writers and social reformers, such as Jacob Riis and Adele Marie Shaw, exposed the physical inadequacies of the building stock and the sometimes indifferent attitude of educators. Even while C.B.J. Snyder was bringing sweeping reforms to new school construction, lauded by educators, architects, and the public, many of the city's existing school houses were in deplorable condition. A report published by the Good Government Club "E" in 1896 describes a number of school buildings, including P.S. 44—"very dangerous" a leaky, one-story wooden frame building with thin paper-lined board partitions, an unpaved playground, and water three inches deep in part of the cellar. In short, it was a "construction of a most inflammable nature, extremely dangerous to life and health."[57] Other buildings had no flush toilets and inadequate ventilation.

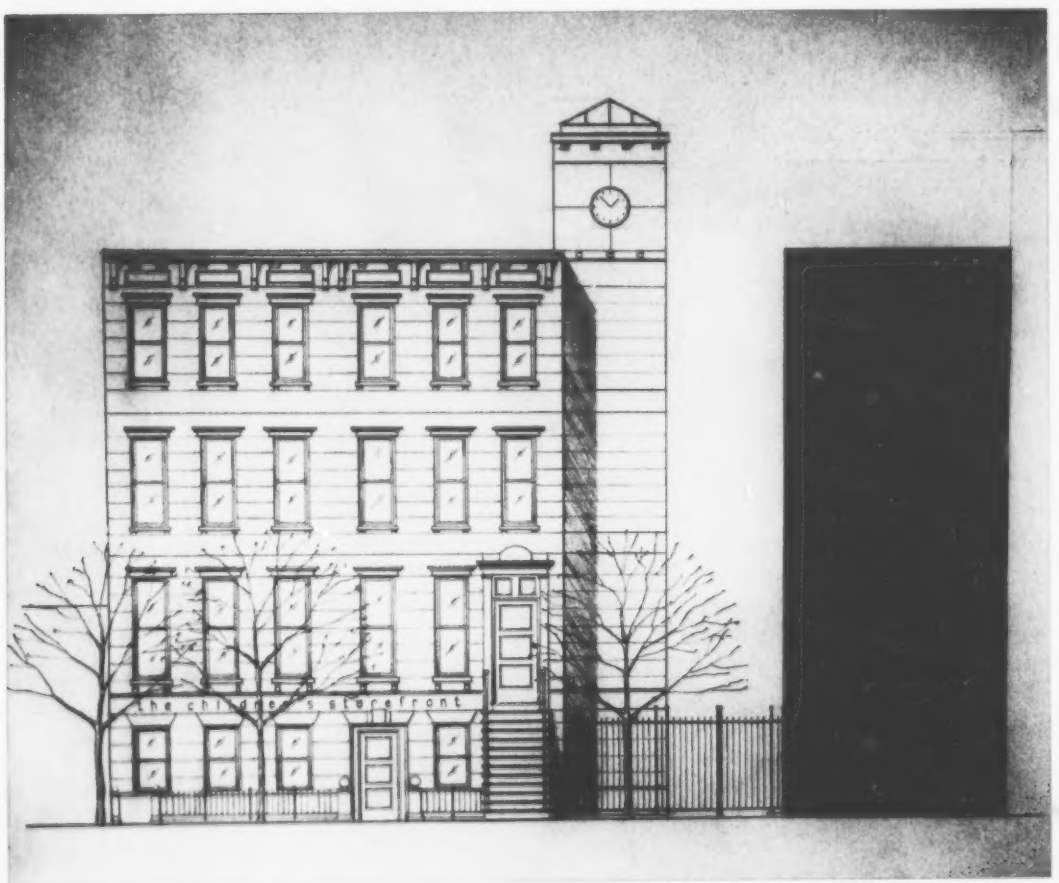

FIG. 83 *The Children's Storefront, rendering of renovated building containing library, assembly space, and additional classrooms*

FIG. 84 *The Children's Storefront, buildings before renovation for school use by Pier, Fine Associates on south side of 129th Street*

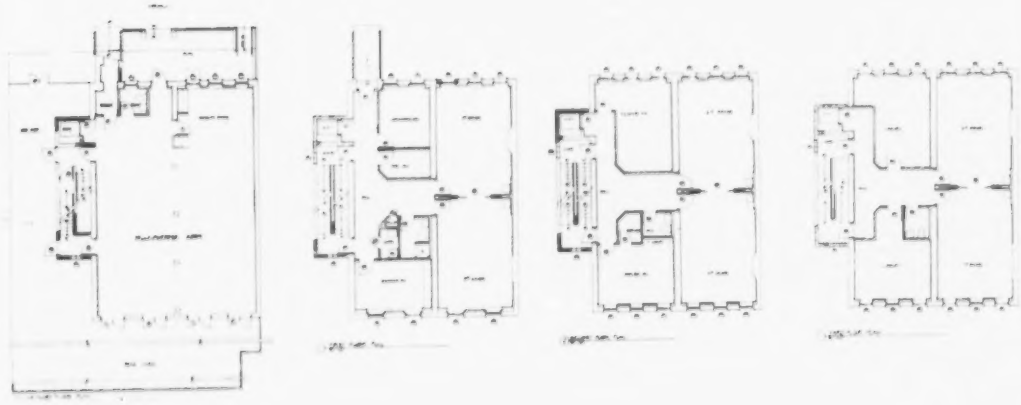

FIG. 85 *The Children's Storefront, plans of renovated building*

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The Good Government Club's report called for administrative measures, such as an accurate school census, that have been reiterated in reports to this day. It also discussed problems of funding the schools in the city's budget, and includes a rather impassioned response from Snyder about school upkeep, pointing out that

there seems to be a popular impression that the Board of Education, and especially the Superintendent of School Buildings, can make repairs and improvements in school premises, entirely overlooking the fact that the law places the power absolutely in the hands of Trustees, and that neither the President of the Board of Education or the Superintendent of School Buildings can order any work whatsoever done in any building, as all orders and contracts must be made by the Board of Trustees, our power being limited to recommendations that are entirely disregarded.[58]

In a study of the city's schools included in the Hanus Report published by the city in 1914, a section was devoted to the problems of their siting, design, and construction.[59] One focus of the report was a call for complete standardization of school design and plan, rather than the modification of similar plan types and designs. As has been illustrated, this suggestion was acted upon, leading to the standardized forms of the next decade. The method of acquiring sites was criticized as cumbersome and unscientific, relying on local requests rather than accurate census figures. The excessive amount of time spent in obtaining approvals from myriad city departments was examined and criticized, as were antiquated mechanical systems design. Construction delays and overall quality were also examined, and then were attributed to the city's process of choosing the lowest bidder without weighing experience.

Much of the criticism leveled against the buildings of the city's public school system in early private and city-sponsored studies has been restated in subsequent studies. Reports have examined the problems of maintaining and upgrading existing building stock, the process of identifying and assembling sites for new school construction, and the complexity of coordinating design, engineering and construction.[60] Some of these problems are perhaps endemic to a system that is plagued in part by its immensity, as well as by a massive, not always coordinated, city bureaucracy. Notwithstanding past and current mandates to establish a semi-independent agency or figure to oversee the site acquisition, design, and construction process, design difficulties persist. Just as in earlier eras, there is still a need to modify outmoded specifications and hidebound building regulations.

Perhaps even more important is the issue of maintenance and upkeep. No school, not even those listed as city landmarks, is immune to the hazards of inadequate upkeep. Pigeons fly in and out of the broken windows of the former music room in the tower of Herman Ridder Junior High School. One of the M-plan schools illustrated in this text, P.S. 94, was the subject of a series of articles in *The New York Times*, which included descriptions of an enrollment almost twice as high as the 700 students it was designed for, leading to classes in the gymnasium and any other available space.[61]

One of the most graphic and poignant descriptions of the decay of another landmark, the auditorium of Morris High School in the Bronx designed by C.B.J. Snyder, is contained in Jonathan Kozol's *Savage Inequalities; Children in America's Schools* published in 1991:

. . . The room resembles an Elizabethan theater. Above the proscenium arch there is a mural, circa 1910, that must have been impressive long ago. The ceiling is crossed by wooden ribs; there are stained glass windows in the back. But it is all in ruins. Two thirds of the stained-glass panes are missing and replaced by Plexiglas. Next to each of the eight tall windows is a huge black number scrawled across the wall by a contractor who began but never finished the repairs. Chunks of wall and sections of the arches and supporting pillars have been blasted out by rot. Lights are falling from the ceiling. Chunks of plaster also hang from underneath the balcony above my head. The floor is filled with lumber, broken and upended desks, potato chip bags, Styrofoam coffee cups and other trash.[62]

The city's independent schools are by no means free of the problems that have plagued the public schools. Financial pressures, building maintenance, and adjusting the physical plant to adapt

to curricular and social changes have been and are ongoing concerns of many schools. With their relatively fixed enrollments, administrative autonomy, and individual boards of directors, most independent schools have been better prepared to adjust to change than the public schools.

Almost all of the independent schools discussed in this essay have renovated, added on to, and/or expanded their buildings. Often the renovations have made innovative use of existing underutilized space, and additions have included the annexation of neighboring buildings. Most of the schools have commissioned master plans to assess current building use and long range goals. Examining the working of the school has enabled administrators, educators, and directors, to lay the groundwork for future. In some cases parents' committees have helped with the design and construction, giving those with a vested interest in the school a voice and hand in shaping its form.

CONCLUSION

All of the school buildings featured in this article, both public and independent, are potent symbols of prevailing ideas of education, society, and the young. The goals set for the city's schools have often been high, and their architecture has been expressive of each generation's interpretation of these aims.

In the mid-nineteenth century, educator Henry Barnard wrote about schools: "No public edifice more deserves, or will better repay, the skill, labor, and expense, . . . for here the health, tastes, manners, minds, and morals of each successive generation of children will be, in a great measure, determined for time and eternity." The powerful role of the architect to achieve this end was clearly stated almost 100 years later by Talbot Hamlin, whose insightful 1939 article "Schools are for Children" states, "Nowhere does an architect have a better chance to display his skill than in the planning of school buildings, and nowhere does he perform a job of greater importance for the public welfare."[63]

Today, as we strive to restore, reshape, and redefine our schools, we would do well to remember the lessons of the past—and to hold some of the same aspirations for schools to shape the future.

Anne Rieselbach is program director of The Architectural League of New York

NOTES

1 *Report on the Rebuilding and Dedication of Ward School No. 4, Rivington Street, near Ridge in the Thirteenth Ward, April 23, 1856.* (New York, 1856), 5–6.

2 For a complete history of the Public School Society see Orland W. Bourne, *The History of the Public School Society of the City of New York* (New York, 1870). For a recent interpretation of the Society and its role in public education see Diane Ravitch, *The Great School Wars* (New York, 1988), 3–84. Early New York City teachers and schools, both private and public, are discussed in Carl F. Kaestle, *The Evolution of An Urban School System: New York City, 1750–1850* (Cambridge, MA, 1973).

3 Ravitch, 13–15.

4 For a short overview of school building in New York City, see Board of Education, City of New York, *New York School Buildings, 1806–1956* (New York, 1956), 8–9.

5 Department of Public Instruction, City of New York, *Thirteenth Annual Report of the Board of Education* (New York: The Board of Education, 1855).

6 For descriptions of the graded system of classes based on Prussian models first used at the Quincy School in Massachusetts see Joel Spring, *The American School 1642–1985* (New York, 1986), 135–136 and 44–45. The nationwide influence on school design created by the individual classrooms of the graded system is explored in Suzanne Lichtenstein, "American School Buildings: 1890 to 1920," (Master's thesis, Cornell University, 1985).

7 Kaestle, 89.

8 For a history of education in Brooklyn, see "History of Education in Kings County 1659–1883," in Henry R. Stiles, ed., *The History of Kings County Including the City of Brooklyn* (New York, 1884), 409–413 and in the same publication, Tunis G. Bergen, "The Department of Education," 609–618 outlining the history of each standing public school building, the organization and funding of the Brooklyn school system up to 1883, and describing scholarships available to Brooklyn's public grammar school students at a number of institutions, including Columbia College and Packer Institute.

9 For a general history of Packer see Marjorie Nickerson, *A Long Way Forward, The First Hundred Years of the Packer Collegiate Institute* (Brooklyn: The Packer Collegiate Institute, 1945). An architectural history "The Packer Collegiate Institute, A Brief Architectural History," was written by the firm Beyer, Blinder, Belle in 1986 as part of a study of the school.

10 For a photographic survey of New York City Landmarks (including school buildings) see Barbaralee Diamondstein, *The Landmarks of New York* (New York, 1988). Elliot Willensky and Norval White, *A.I.A. Guide to New York City* (New York, 1988) includes landmarked school buildings, as well as others of architectural or historic significance.

11 James T. Dillon, "Public School 34," (Landmarks Preservation Commission, 12 April 1983, Designation List 164, LP–1288).

12 Diamondstein, p. 172.

13 James T. Dillon, "Public School 11," (Landmarks Preservation Commission, 25 August 1981, Designation List 147, LP–1179); Cheryl Anne Slavin, "Public School 11: A History," (typed paper in the files of the Landmarks Commission, n.d.).

14 For a general history of city schools during this era, see Board of Education, City of New York, *The First Fifty Years 1898–1948* (New York, 1948). The physical reality of schools before Snyder's work is explored in Adele Marie Shaw, "The True Character of New York Public Schools," *World's Work* VII, no. 2 (December 1903), 4202–4221. Surveys of Snyder's work appear in John Beverly Robinson, "The School Buildings of New York," *Architectural Record* (January–March 1898), 359–384 and C.B.J. Snyder, "Public School Buildings in the City of New York," *American Architect and Building News* XCIII (January–March 1908). A more recent analysis of Snyder's contributions to New York City school design in the context of the history of New York City's buildings, along with a thorough bibliography for his work can be found in R.A.M. Stern, G. Gilmartin, and J. Massengale, *New York 1900* (New York, 1983). A later period of school design appears in R.A.M. Stern, G. Gilmartin, and T. Mellins, *New York 1930* (New York, 1987).

15 The H plan is discussed at length in Charles C. Johnson, "The Modern School House," *World's Work* XII (May–October 1906), 7664–7668.

16 C.B.J. Snyder, "School Buildings in Europe," *New York Tribune*, 5 December 1896, 10.

17 *Real Estate Record and Guide—Annual*, 1899.

18 Shirley Zavin, "Curtis High School," (Landmarks

18 Shirley Zavin, "Curtis High School," (Landmarks Preservation Commission, 12 October 1982, Designation List 160, LP-1214).

19 See Stern et al. *New York 1900* and Willensky and White for dates and, in some cases, illustrations.

20 For a general history of the school, see Ruth McAneny Loud, ed., *The Brearley School 75 Years* (New York: The Brearley School, 1959). The school's archives also contain the architect Henry Rutgers Marshall's final report, dated 10 October 1891, and notes on plans for the building.

21 Plans for the new school and explanations of the building's use (as well as the corporate reorganization of the school) are contained in The Brearley School, *The New Brearley School* (New York, 1911).

22 *The New Brearley School*, 6. Due to budgetary restrictions, the third floor of the new building was left unfinished, and a second elevator was omitted. A fundraising flyer issued in April 1914, describes the need for finishing the space (due to increased enrollment) and adding the elevator.

23 Board of Education, City of New York, "School Building Inventory: Age by Decades of all 973 Facilities," (New York, c. 1981).

24 For a summary of sources about administration in this era see Joel Spring, 231–235. See *The First Fifty Years, 1898–1948* for a survey of the New York City curriculum during these years, and for a discussion of "Americanization" as well as a survey of the history of Urban Education, see David B. Tyack, *The One Best System* (Cambridge, MA, 1974).

25 W. K. Harrison and C. E. Dobbin, *School Buildings of Today and Tomorrow* (New York, 1931), 185–205.

26 *Ibid.*

27 For a brief overview of Perkin's work see Eric Emmett Davis and Karen Indeck, *Dwight Heald Perkins, Social Consciousness and Prairie School Architecture* (Chicago, 1989); for the school designs by Perkin's firm see *Perkins Fellows & Hamilton, Educational Buildings* (Chicago, 1925).

28 Harrison and Dobbin, 185–219.

29 For surveys of teaching philosophies during this era, see Spring, 169–177 and Larry Cuban, *How Teachers Taught: Constancy and Change in American Classrooms 1890–1980* (New York, 1984), 41–111.

30 Cuban as cited and summarized in Spring, 169–170.

31 The history of Irwin's work in her experimental progressive classes at The Little Red School House, which began in 1919 in a public school before moving to its present home on Bleecker Street and converting to an independent school in 1932, is documented (and illustrated) in Agnes De Lima, *The Little Red School House* (New York, 1942).

32 A discussion of The Activity Program, an attempt to integrate progressive teaching within selected New York City schools from 1934–1940, can be found in Cuban, 55–61.

33 For an overview of a number of independent schools during the 1930s see Federal Writers Project, *New York Learns, A Guide to the Educational Facilities of the Metropolis* (New York, 1939), 40–61.

34 Current information about Little Red School House and a tour of the school were provided by Annie LaRock.

35 For a general history of the Dalton School, see Marilyn Moss Feldman, ed., *Dalton School 1919–1979, 60 Years, a Book of Memories* (New York: The Dalton School, 1979).

36 Plans for the new building are illustrated and outlined in *The New Dalton Building* (New York: The Dalton School, n.d.). Assistant Headmaster Frank Carnabuci provided additional information and a tour of the Dalton School's 89th Street building.

37 A brief history of the Ethical Culture Schools, including Fieldston, is included in the school brochure, *The Ethical Culture Schools*.

38 This scheme is illustrated in the brochure *A New Departure in Education*, n.d. published for the Ethical Culture High School Building Fund, which also contains a long essay by Felix Adler on education.

39 Photographs of the completed buildings are included in the undated school brochure *Fieldston, Educating Girls for Life*. Additional information about Fieldston and the Ethical Culture schools was provided by Director of Public Relations Judith Rich.

40 Some of the justifications for the move are

outlined in "The Move." *The Brearley Bulletin* IV, no. 1 (November 1928), 3–6. *The Brearley Bulletin* IV, no. 2 (February 1929) subtitled "The New Schoolhouse Number," goes into great detail about the reasons for the move, summarizes the history of the school, and is illustrated with floor plans of the new building.

41 For a description of this trend nationally see Lichtenstein, 232–237.

42 For a discussion of the development of the junior high school see Spring, 214–219. The rationale behind the creation of junior high schools in Manhattan is discussed in *The First Fifty Years*, 64, 99–100.

43 A photograph, first floor plan, and brief description of the school are one of the compendium of school and other public works projects in C. W. Short and R. Stanley-Brown, *Public Buildings: Architecture Under the Public Works Administration, 1933–1939* (Washington D.C., 1939), 196. Although the capacity in this text is stated as 1,700, Board of Education records state a seating capacity of 5,148. Files at the New York City Art Commission provide a chronology for the design of the school.

44 Harrison and Dobbin, 107, 134–135. This work features photographs and plans of standard types of elementary, junior high school, and high school classrooms and administrative areas.

45 See the New York City Board of Education's annual report, *All the Children* (1943–1944, 1944–1945). The reports contain renderings of planned buildings and lists of architects who will design new schools.

46 *New York School Buildings, 1806–1956*, 40–67, includes renderings of a selection of proposed school buildings by New York City architectural firms.

47 B. Sumner Gruzen, "School Design in-the-Round," *American School and University* (1954–1955), 247–252. "Banjo-Plan School," *Architectural Forum* 97 (November 1952), 122–125. Kelly & Gruzen, Architects, "Fact Sheet," (2 pp.) outlines the building program, including the number and type of classrooms and the art work to be included in the building.

48 James Sanders, a graduate of P.S. 59, provided information about the building's use.

49 A number of pamphlets published during this era, notably those produced by the Educational Facilities Laboratory (a non-profit organization founded by the Ford Foundation), illustrated plans for "open" classrooms, and discussed their relationship with new teaching methods. Two of the brochures, *Educational Change and Architectural Consequences* (New York: Educational Facilities Laboratories, 1968) and *Schools Without Walls* (New York: Educational Facilities Laboratories, n.d.), illustrate their ideas.

50 "Primary School P-380-K," (four-page brochure, 1971).

51 For general descriptions of the design for the school, its philosophy, and New York City educators' response to Acorn, see Rita Reif, "All Around Them, Things to Climb and to Read," *The New York Times*, 2 June 1971, 18, and Janet Bloom, "Rock 'n Roll School," *Architectural Forum* 37 (November 1972), 56–61. A detailed architectural description and design history can be found in Mayers & Schiff, Architects, "Description of the Acorn School," undated typed text. Current information about the school and its programs can be found in "The Acorn School," (school brochures both current and c. 1973) and was gained in an interview with school Director Jill Axthelm.

52 The brochures are reprinted in Charlotte Winsor, ed., *Experimental Schools Revisited: Bulletins of the Bureau of Educational Experiments* (New York, 1973).

53 For a history of Mitchell and her work at Bank Street see Joyce Antler and Lucy Sprague Mitchell, *The Making of a Modern Woman* (New Haven, 1987). Brief histories of the school are contained in a series of undated brochures, Bank Street College of Education, *A Brief History of Bank Street* and *A Brief History of Bank Street College*, both published after the school moved to 122th Street. Preliminary plans, interior perspectives, and descriptions of specific facilities (with their projected cost) for the 112th Street Building are published in an undated fundraising brochure, *Bank Street*. Further descriptions and a construction photograph are contained in *Bank Street College of Education 1968 Annual Report*. Current information about the Bank Street College of Education and the Bank Street School for Children can be found in *Bank Street College of Education, the 1989 Annual Report* and the school brochure *Bank Street School for Children*. Additional information and a tour of the school was provided by Dean Joan Cenedella, the head of Children's Programs.

54 Ellen Posner, "Learning Curve," *Architectural Record* 177, no. 3 (March 1989).

55 "Building Blocks," *Architectural Record* 177, no. 3 (March 1989), 112–115.

56 The spirit and shape of this school are captured in

the recent film documentary *The Children's Storefront* created in 1989 by Karen Goodman. There have been a number of articles published about the school and its headmaster and founder, Ned O'Gorman. Among the more informative are Amanda Gardner, "Heads of the Classes, Five who rule in New York City's private schools," *Manhattan, Inc.* (September 1989), 32; Carolyn Battista, "Self-esteem and nonviolence are keys at Harlem Storefront School," *The Boston Sunday Globe*, 30 July 1989, B29; Joseph Hurley, "He Came to Help Harlem's Poor," *Newsday*, 13 June 1986, 2–3; Fred Hechinger, "Inner-City Classroom With a Lesson to Teach," *The New York Times*, 17 July 1984; Steve Lerner, "Harlem's Headmaster," *Daily News Sunday News Magazine*, 27 May 1984, 11–12. Current information about the school is available in *The Children's Storefront*, a brochure published annually by the school, and *The Storefront Journal*, written by the school's students. Further information and a tour of the school was given by Ned O'Gorman and the teacher and president of the Board of the Directors, Elsie V. Newburg. Wendy-Kneale Culbreath assisted in the research and drafted the exhibition text about the Children's Storefront.

57 Good Government Club "E" No. 7, *Public School Buildings in New York City. Their Condition as shown in Official Reports*, 1896.

58 *Ibid.*, 12.

59 City of New York, *Report on New York Public Schools. Delays in their Location, Design, and Construction*, Charles G. Armstrong, Francis J. Armstrong, consulting engineers, 1913–1914.

60 National Civic Federation, New York and New Jersey Section, June 1921 (mimeograph). The Civic Federation included a number of women's service organizations such as the Women's Municipal League, Civitas Club (Brooklyn), Women's City Club, Council of Jewish Women, Public Education Association, League of Catholic Women, New York State Federation of Women's Clubs, and New York State Federation of Business and Professional Women's Clubs.

61 As cited in Jonathan Kozol, *Savage Inequalities: Children in America's Schools* (New York, 1991), 114–115.

62 Kozol, 106. Kozol goes on to describe the principal's hopes for restoring the space to make it the "soul of the school."

63 Talbot Hamlin, "Schools are for Children," *Pencil Points* (March 1939).

PHOTO CREDITS

FIGS. 1, 2, 7, 8, 10, 11, 13–15, 17–19, 25–28, 30, 46, 48–55, 60, 61, 65 New York City Board of Education Archives, Milbank Memorial Library, Teachers College, Columbia University

FIGS. 3–6 Courtesy of Packer Collegiate Institute

FIG. 9 Photograph by Andrew Dolkart courtesy of the New York City Landmarks Preservation Commission

FIGS. 21–24, 42–45 Courtesy of The Brearley School

FIG. 31 Bank Street College of Education Record, Special Collections, Milbank Memorial Library, Teachers College, Columbia University

FIGS. 32–34 Courtesy of The Little Red School House

FIGS. 35–38 Courtesy of The Dalton School

FIGS. 39–41 Courtesy of The Fieldston School

FIGS. 47, 67 Courtesy of the New York City Art Commission Archives

FIGS. 62–64, 66 Courtesy of the Department of Construction and Design, Division of School Buildings, Board of Education of the City of New York

FIGS. 68–69 Photographs © Laura Rosen, Courtesy of Richard Dattner & Associates

FIG. 70, 78 Courtesy of Richard Dattner & Associates

FIGS. 71–73 Courtesy of Mayers & Schiff Architects

FIGS. 74, 75, 77 Courtesy of The Bank Street College of Education

FIG. 76 Photograph by Richard Mrstik

FIGS. 79, 80 Photographs © Jeff Goldberg/Esto, Courtesy of Richard Dattner & Associates

FIGS. 81, 84–85 Courtesy of Pier, Fine Associates, Architects

FIG. 82 Photograph by Ozier Muhammad, Courtesy of *Newsday*

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This book gives physical form to two important ideals in education the significance of small schools in helping children learn and the benefits of integrating schools into the community. Innovative designs are presented for six neighborhoods—Flushing, Harlem, Prospect Heights, Morrisania, Sunset Park, and Washington Heights. Although the sites are in New York, they reflect diversity in urban areas nationwide

New Schools for New York includes a discussion of why small schools are important, an analytical essay discussing the design projects and specific features that offer the greatest possibilities for use in New York and other cities, and an historical essay on the design of public and independent schools in New York City. The project's sponsors are the Architectural League of New York and the Public Education Association

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